Pima County
Labor Market Information

February 19, 2014
Paul Shannon, LMI Director
Office of Employment and Population Statistics
Arizona Department of Administration
Paul.Shannon@azdoa.gov

Agenda

- Labor Market Information
  - Definitions/Data Products & Services
  - Employment Estimates
  - Pima County Target Sectors
  - Arizona and Tucson MSA's Post-Recession Recovery
  - Forthcoming Employment Forecast
  - Cluster Industries
- Questions

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Labor Market Information

Labor Definitions

What is LMI?

"Labor Market Information"

- People with jobs are *employed*.
- People who are jobless, looking for a job, and available for work are *unemployed*.
- The *labor force* is made up of the employed and the unemployed.
- People who are neither employed nor unemployed are *not in the labor force*.

Marginally Attached to the labor force: **These are individuals without jobs who are not currently looking for work (and therefore are not counted as unemployed), but who nevertheless have demonstrated some degree of labor force attachment:**

- **they currently want a job**
- **have looked for work in the last 12 months (or since they last worked if they worked within the last 12 months)**
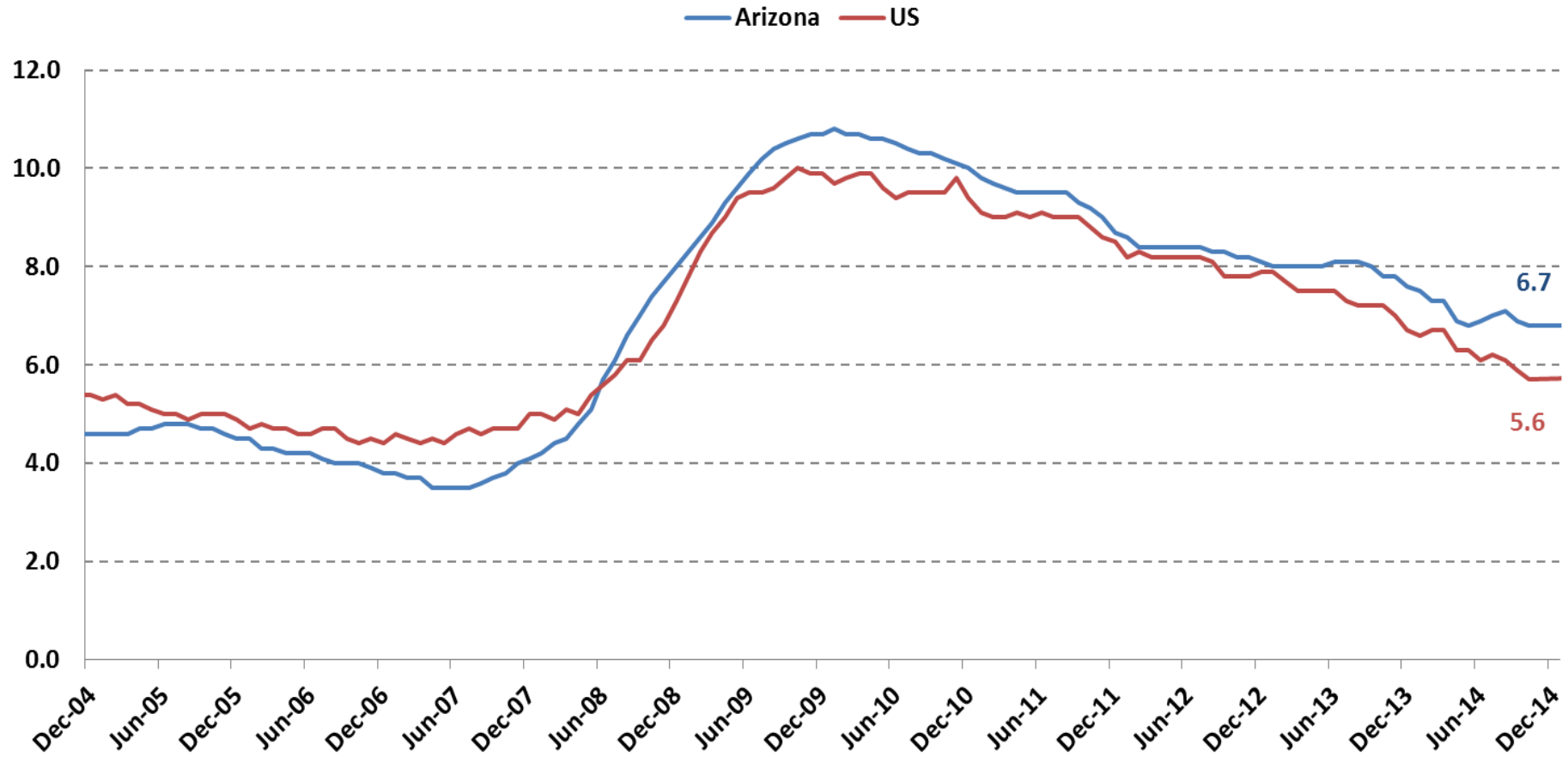- **are available for work.**

Discouraged Workers: **are a subset of the marginally attached. Discouraged workers report they are not currently looking for work for one of the following types of reasons:**

- **They believe no job is available to them in their line of work or area.**
- **They had previously been unable to find work.**
- **They lack the necessary schooling, training, skills, or experience.**
- **Employers think they are too young or too old, or**
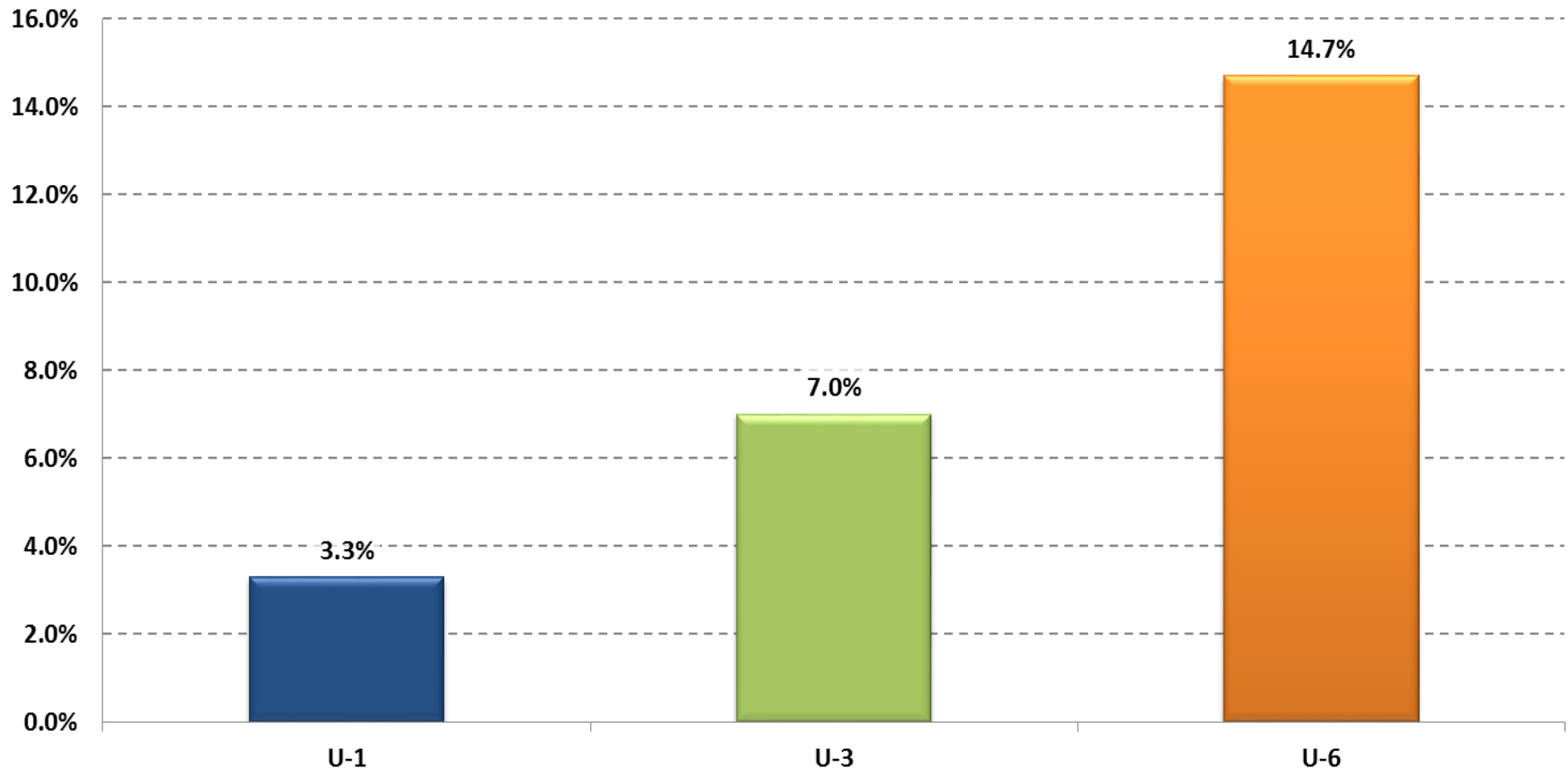- **They face some other type of discrimination.**

Alternative Measures of Labor Underutilization
Arizona Annual Averages

Laborstats.az.gov
602-771-2222
Data provided by BLS LAUS program
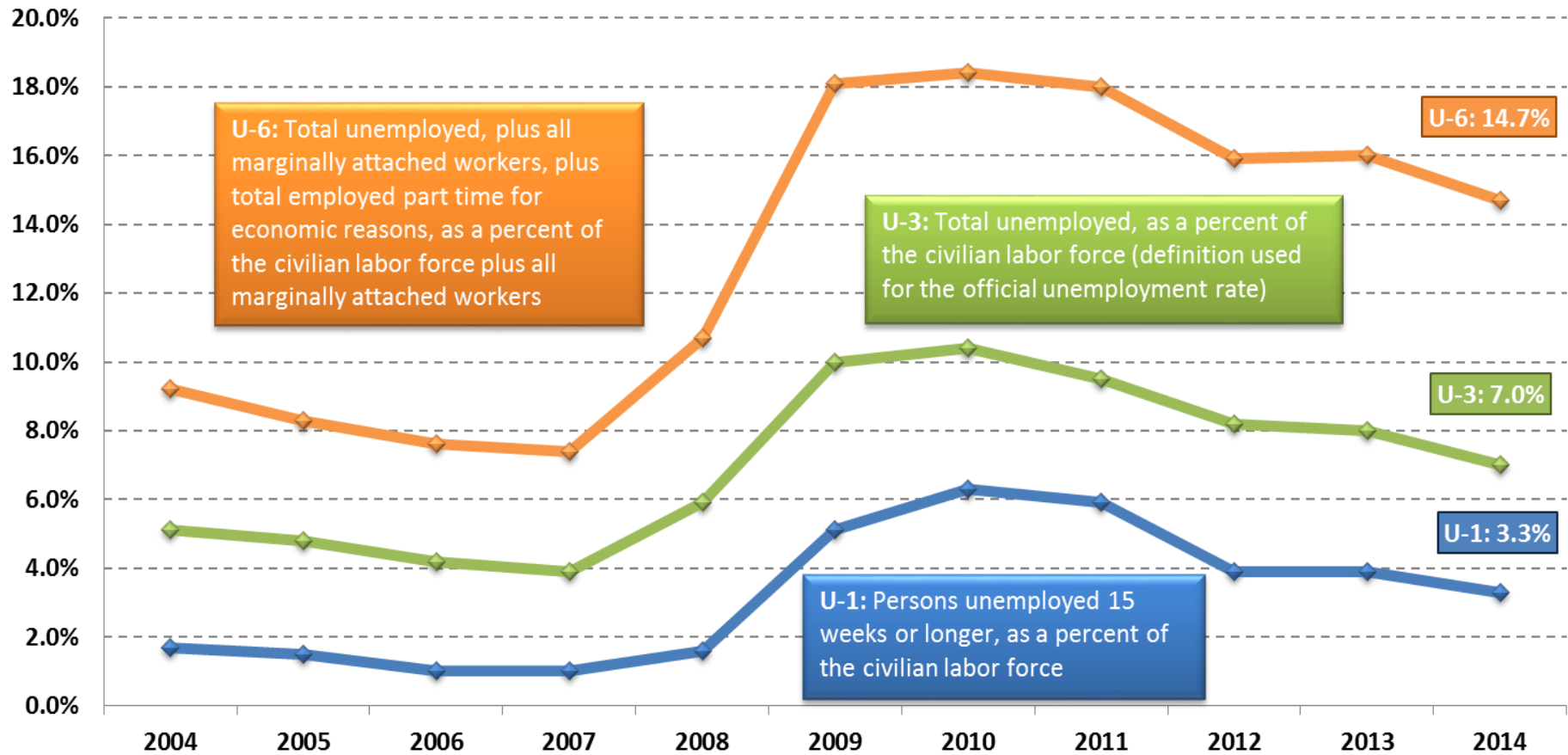
Seasonally Adjusted Unemployment Rate
January 2004 - September 2014

— Arizona — US

Laborstats.az.gov
602-771-2222
Data provided by BLS LAUS program

Alternative Measures of Labor Underutilization
2014 Arizona Annual Average

Laborstats.az.gov
Data provided by BLS LAUS program
602-771-2222

Industry Occupation and Classification

Why is This Important?

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- To make an informed decision, or to measure economic progress of any action, one needs data

- Data, however, adheres to a rigid structure. To effectively use existing data, one must be willing to work alongside its already predefined structure.

- Understanding the classification system of the data is therefore a necessary prerequisite for its use.

- The Occupational Employment Survey uses the Standard Occupational Classification (SOC)

- The Current Employment Survey uses the North American Industry Classification System (NAICS)

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How Occupations & Industries are Defined & Organized

- Occupation (describes what a **worker** does)
  - Standard Occupation Classification (SOC)
  - Six digit occupation code (O*NET has eight)
  - **The more digits, the more detail** (hierarchical)
- Industry (describes what the **business** does)
  - North American Industry Classification System (NAICS)
  - Six digit industry code
  - **The more digits, the more detail** (hierarchical)

SOC CLASSIFICATION LEVELS

Broad categories lead to unique 6-digit codes for each occupation:

22 Major groups ;   divided into...

98 Minor groups;   divided into...

450 Broad occupations;   divided into...

800+ Detailed occupations

SOC STRUCTURE EXAMPLE

Major Group: **15**-0000 Computer and Mathematical Occupations

  Minor Group: 15-**1**000 Computer Occupations

      Broad Occupation: 15-1**13**0 Software Developers and
Programmers

          Detailed Occupation: 15-113**2** Software
Developers, Applications

NAICS CLASSIFICATION LEVELS

Broad categories lead to unique 6-digit codes for each occupation:

11 Super sectors;   divided into…

20 Major sectors ;   divided into…

99 Subsector;   divided into…

312 Industry Groups;   divided into…

713 Industries;   divided into…

1,064+ National Industries

NAICS STRUCTURE EXAMPLE

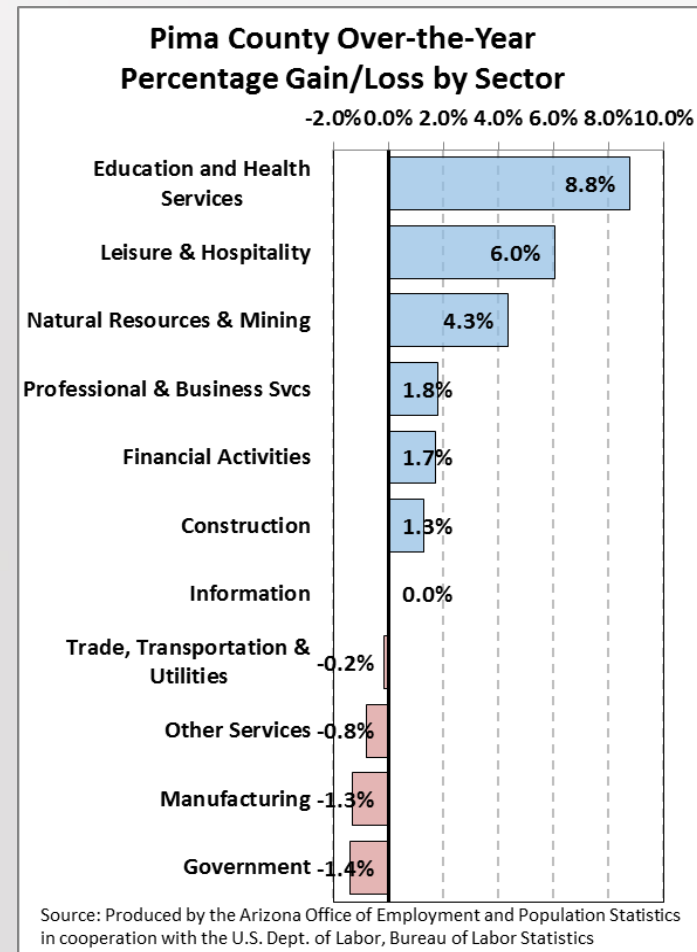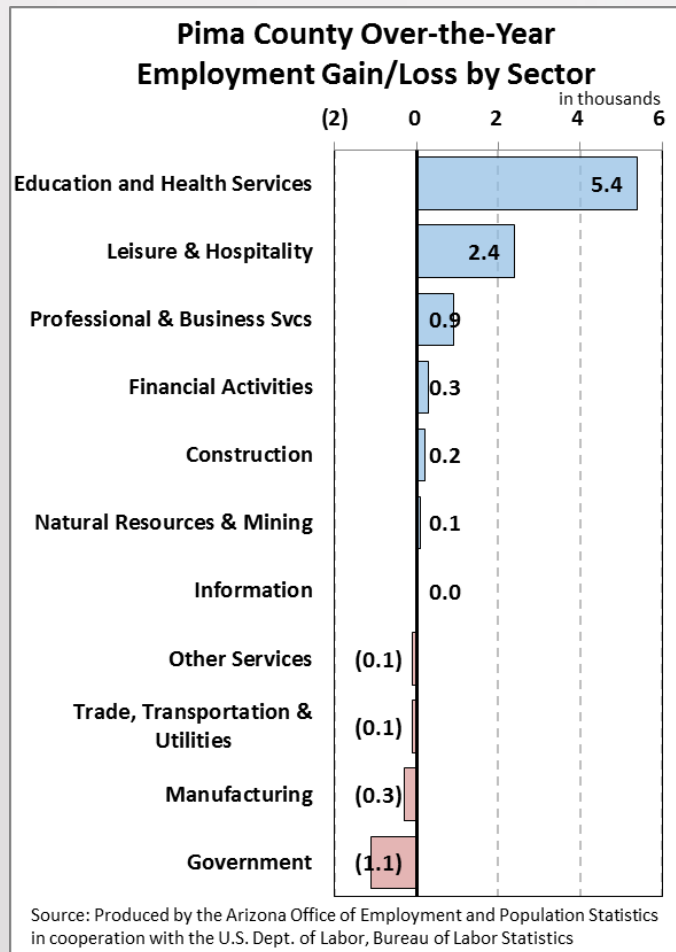**Sector: 54** Professional and Business Services

    Sub-Sector: 541 Professional, Scientific and Technical Services

        Industry Group: 5417 Scientific Research and Development Services

            NAICS Industry: 54171 Research and Development in the Physical Engineering and Life Sciences

                National Industry: 541711 Research and Development in Biotechnology

Laborstats.az.gov
602-771-2222

Pima County Year Over Employment December (CES Data)

Pima County Over-the-Year Employment Gain/Loss by Sector

in thousands

Sector	Value
Education and Health Services	5.4
Leisure & Hospitality	2.4
Professional & Business Svcs	0.9
Financial Activities	0.3
Construction	0.2
Natural Resources & Mining	0.1
Information	0.0
Other Services	(0.1)
Trade, Transportation & Utilities	(0.1)
Manufacturing	(0.3)
Government	(1.1)

Source: Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

Pima County Over-the-Year Percentage Gain/Loss by Sector

Sector	Value
Education and Health Services	8.8%
Leisure & Hospitality	6.0%
Natural Resources & Mining	4.3%
Professional & Business Svcs	1.8%
Financial Activities	1.7%
Construction	1.3%
Information	0.0%
Trade, Transportation & Utilities	-0.2%
Other Services	-0.8%
Manufacturing	-1.3%
Government	-1.4%

Source: Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

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Current Employment Statistics (CES)

Ways to Analyze Employment Levels

Over the Month

- Numeric/Percent Change

- Issue: Large influence of seasonal factors

- Main Use: Compare changes to previous years in the same month – comparison of previous years point-in-time estimates
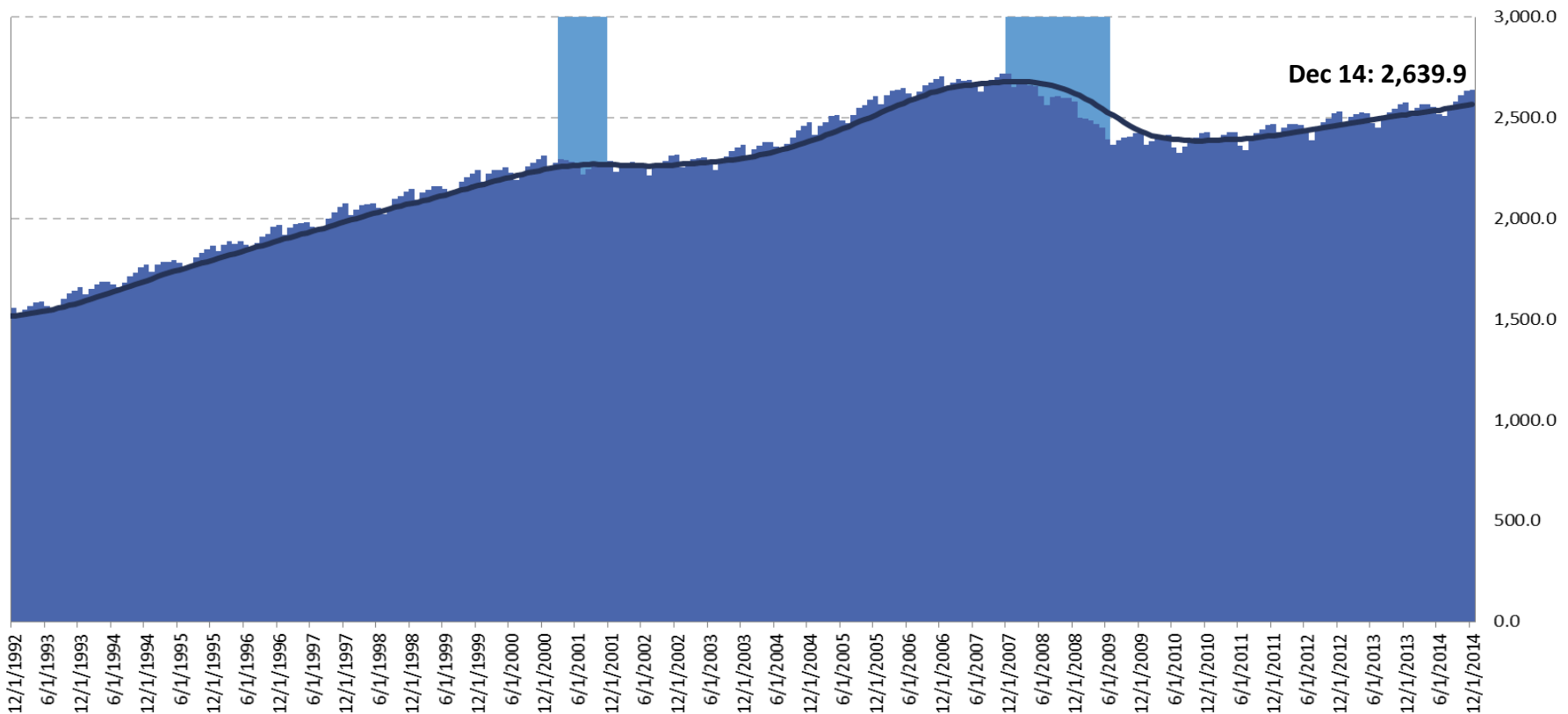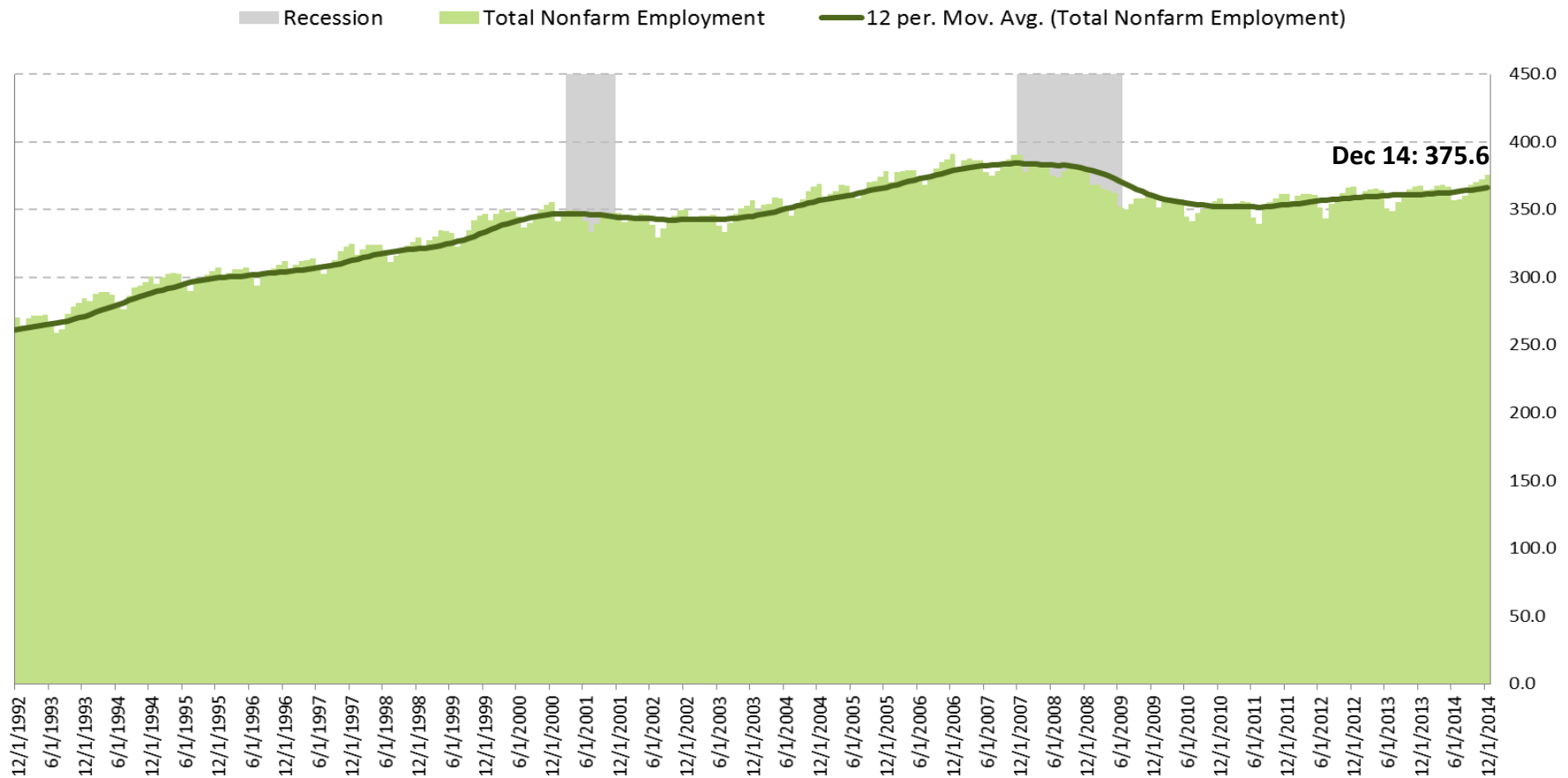
Over the Year

- Numeric/Percent Change

- Issue: Less influenced by seasonal factors

- Main Use: Compare changes to previous time periods – long-term trends (growing, declining, accelerating, or decelerating)

Arizona NonFarm Employment (CES Data)

Arizona Employment Level

Legend: Recession | Total Nonfarm Employment | 12 per. Mov. Avg. (Total Nonfarm Employment)
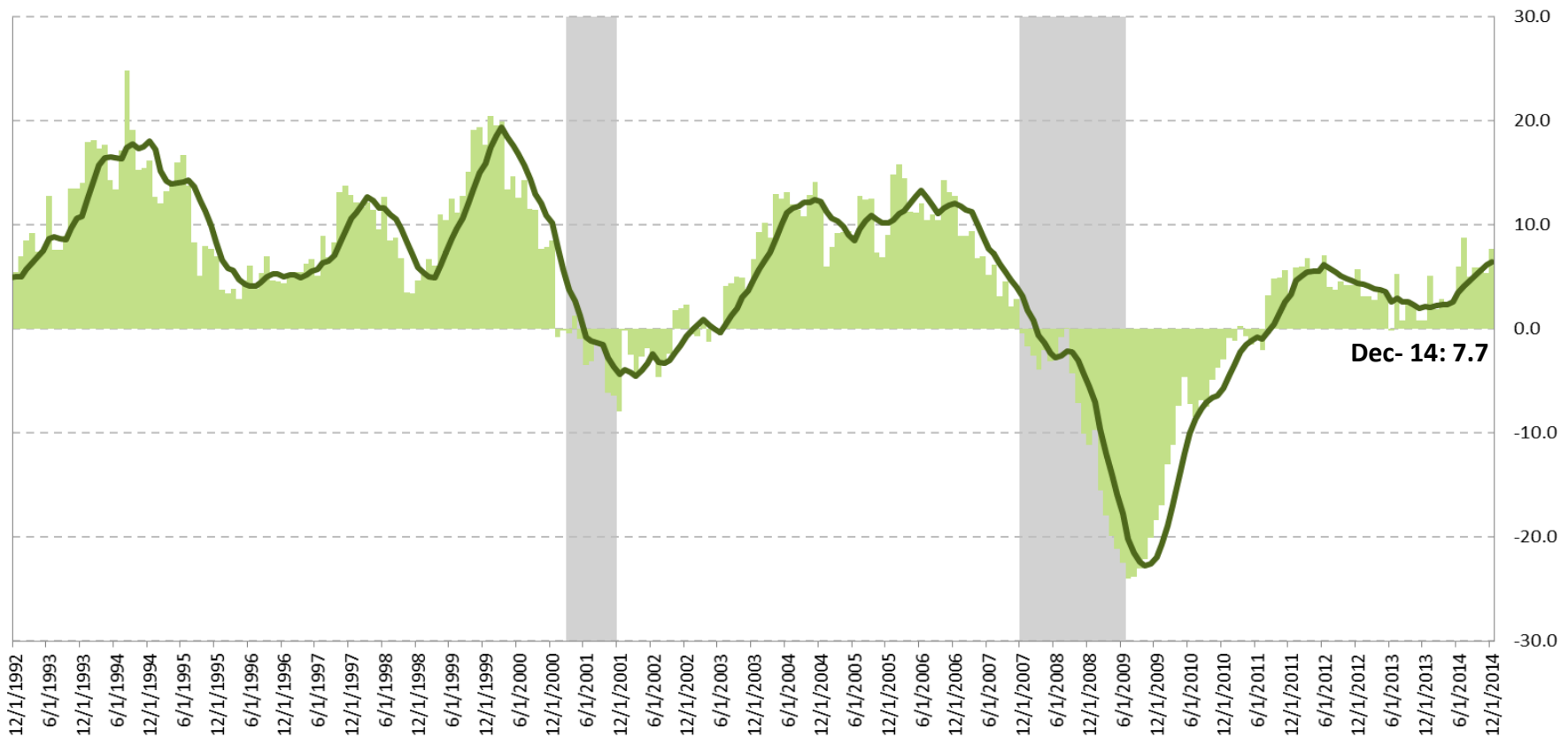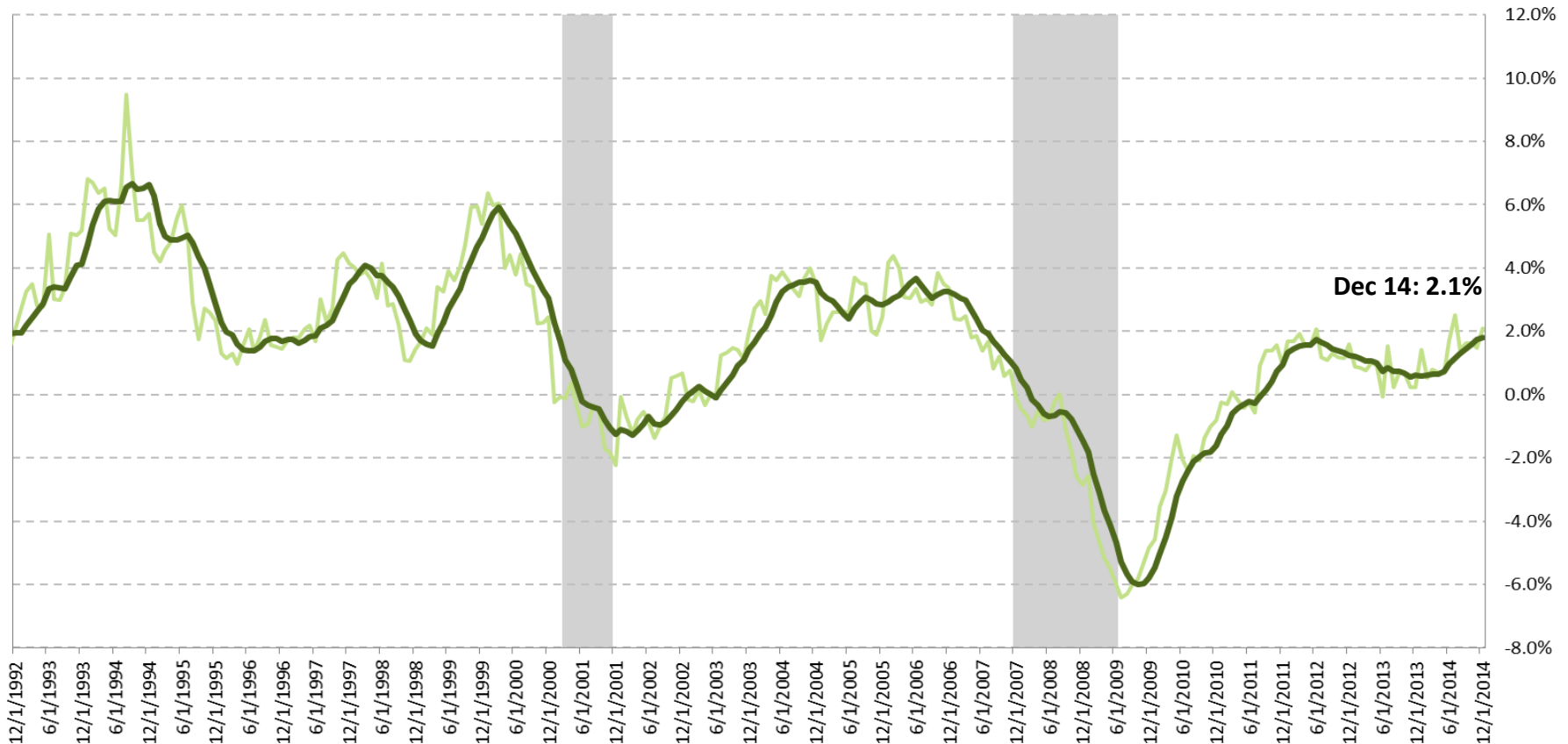
Dec 14: 2,639.9

Source: Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

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Arizona County Share (CES Data)

Arizona County Employment Share
2014 Annual Average, Not Seasonally Adjusted

15.6 %

14.3%

Pima County

70.1%

Maricopa County

- Maricopa County
- Pima County
- Coconino County
- Yavapai County
- Pinal County
- Yuma County
- Mohave County
- Cochise County
- Navajo County
- Apache County
- Gila County
- Santa Cruz County
- Graham County
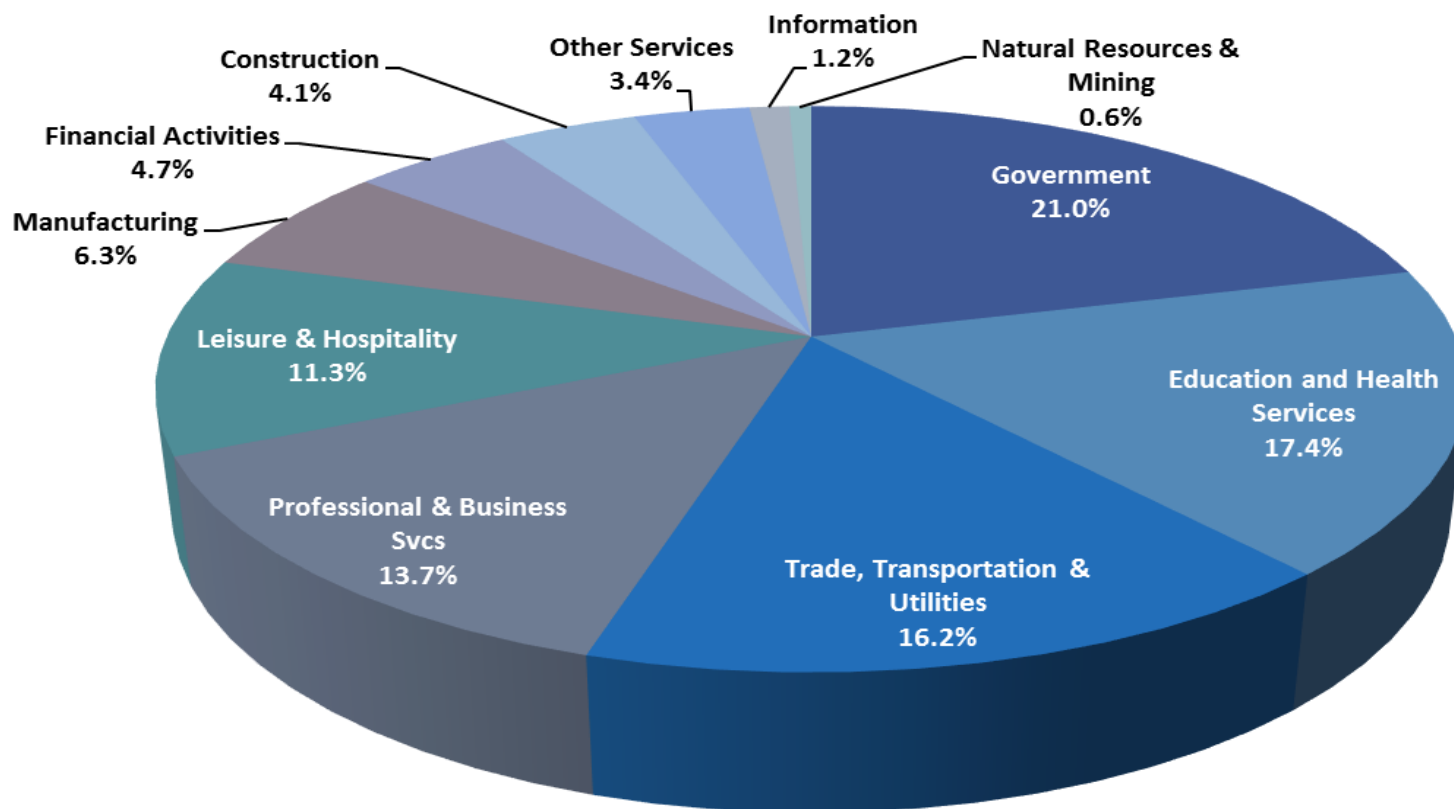- Greenlee County
- La Paz County

Source: Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

Pima County NonFarm Employment (CES Data)

Pima County Employment Level

Dec 14: 375.6

Source: Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

Pima County NonFarm Employment (CES Data)

Pima County Over the Year Number Change

Legend: Recession | Total Nonfarm Employment | 6 per. Mov. Avg. (Total Nonfarm Employment)

Dec- 14: 7.7

Source: Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

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Pima County NonFarm Employment (CES Data)

Pima County Over the Year Percent Change

Legend: Recession — Total Nonfarm Employment — 6 per. Mov. Avg. (Total Nonfarm Employment)

Dec 14: 2.1%

Source: Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

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Pima County Industry Employment (CES Data)

Pima County Industry Employment Share
2014 Annual Average, Not Seasonally Adjusted

- Construction 4.1%
- Other Services 3.4%
- Information 1.2%
- Natural Resources & Mining 0.6%
- Financial Activities 4.7%
- Manufacturing 6.3%
- Government 21.0%
- Leisure & Hospitality 11.3%
- Education and Health Services 17.4%
- Professional & Business Svcs 13.7%
- Trade, Transportation & Utilities 16.2%
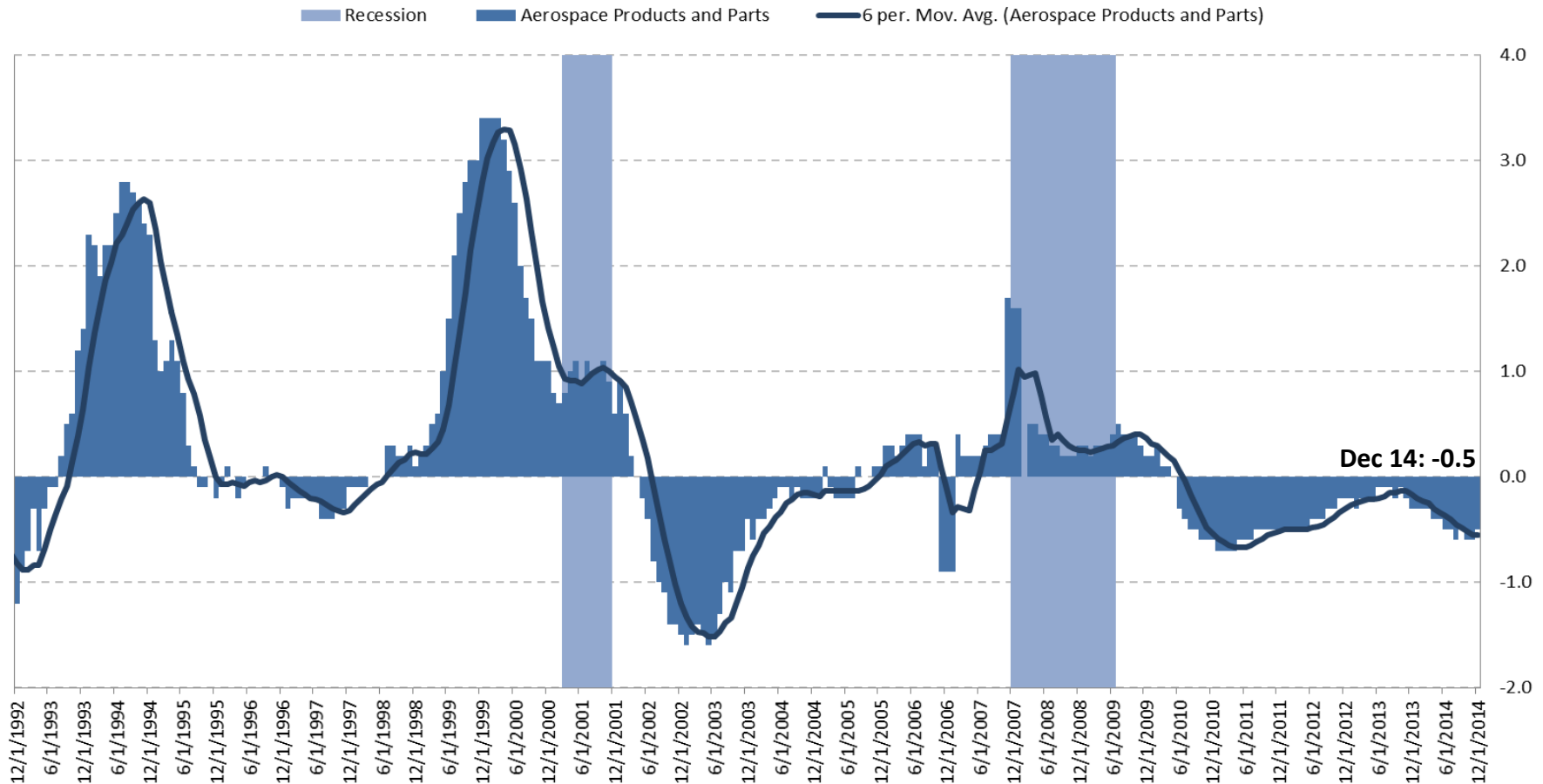
Source: Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

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The Six Target Sectors

Employment Estimates

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Aerospace & Defense

Pima County WIB Definition

This Industry includes a concentration of the highest paid jobs, with military bases, defense contractors, and supporting manufacturers anchored by Davis-Monthan and major companies such as Raytheon and Sargent Controls.

Some of the NAICS codes between various target Industries overlap

Possible NAICS Classifications

- **3364** – **Aerospace Products and Parts Manufacturing**
    - **336411** – Aircraft Manufacturing
    - **336412** – Aircraft Engine and Engine Parts Manufacturing
    - **336413** – Other Aircraft Parts and Auxiliary Equipment Manufacturing
    - **336414** – Guided Missile and Space Vehicle Manufacturing
    - **336415** – Guided Missile and Space Vehicle Propulsion Unit and Propulsion Unit Parts Manufacturing
    - **336419** – Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing

Aerospace Products and Parts Manufacturing (CES Data)
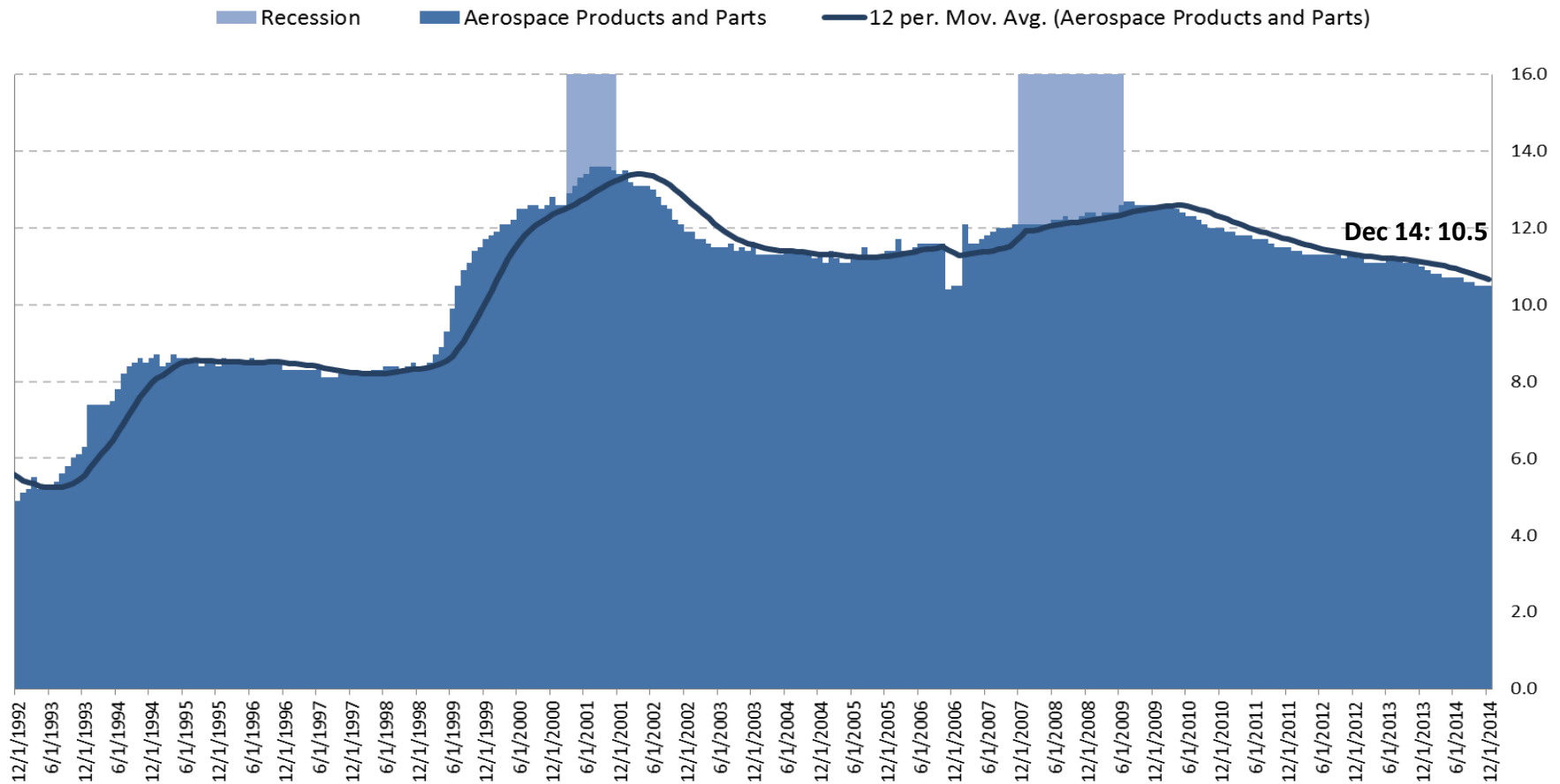
Pima County Employment Level

Legend: Recession | Aerospace Products and Parts | 12 per. Mov. Avg. (Aerospace Products and Parts)
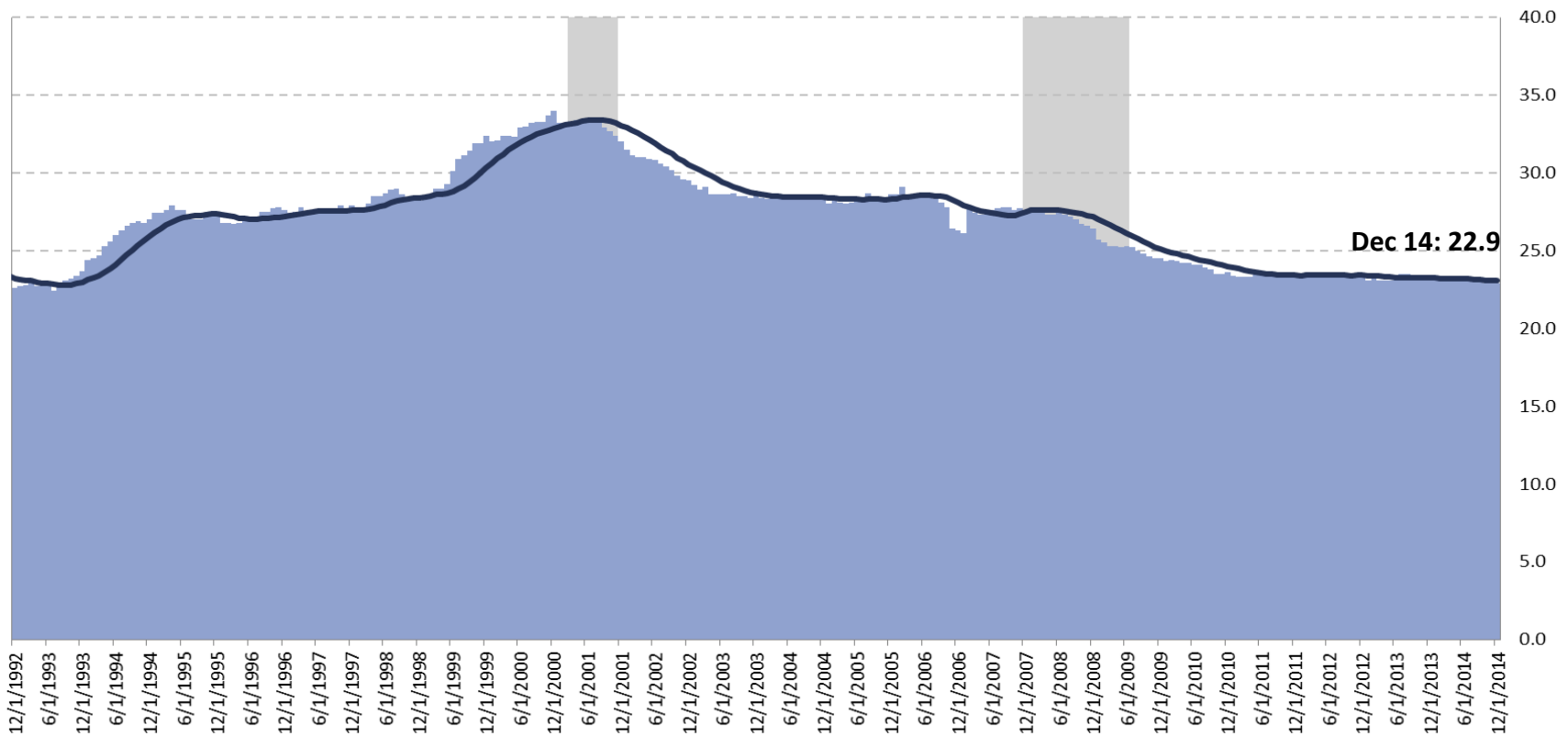
Dec 14: 10.5

Source: Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

Aerospace Products and Parts Manufacturing (CES Data)

Pima County Over the Year Number Change

Legend: Recession | Aerospace Products and Parts | 6 per. Mov. Avg. (Aerospace Products and Parts)

Dec 14: -0.5

Source: Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

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Manufacturing (CES Data)

Pima County Manufacturing Employment Level

Legend: Recession | Manufacturing | 12 per. Mov. Avg. (Manufacturing)

Dec 14: 22.9

Source: Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

Manufacturing Over the Year (CES Data)

Pima County Over the Year Manufacturing Number Change

Recession   Manufacturing   6 per. Mov. Avg. (Manufacturing)

Dec 14: -0.3

Source: Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

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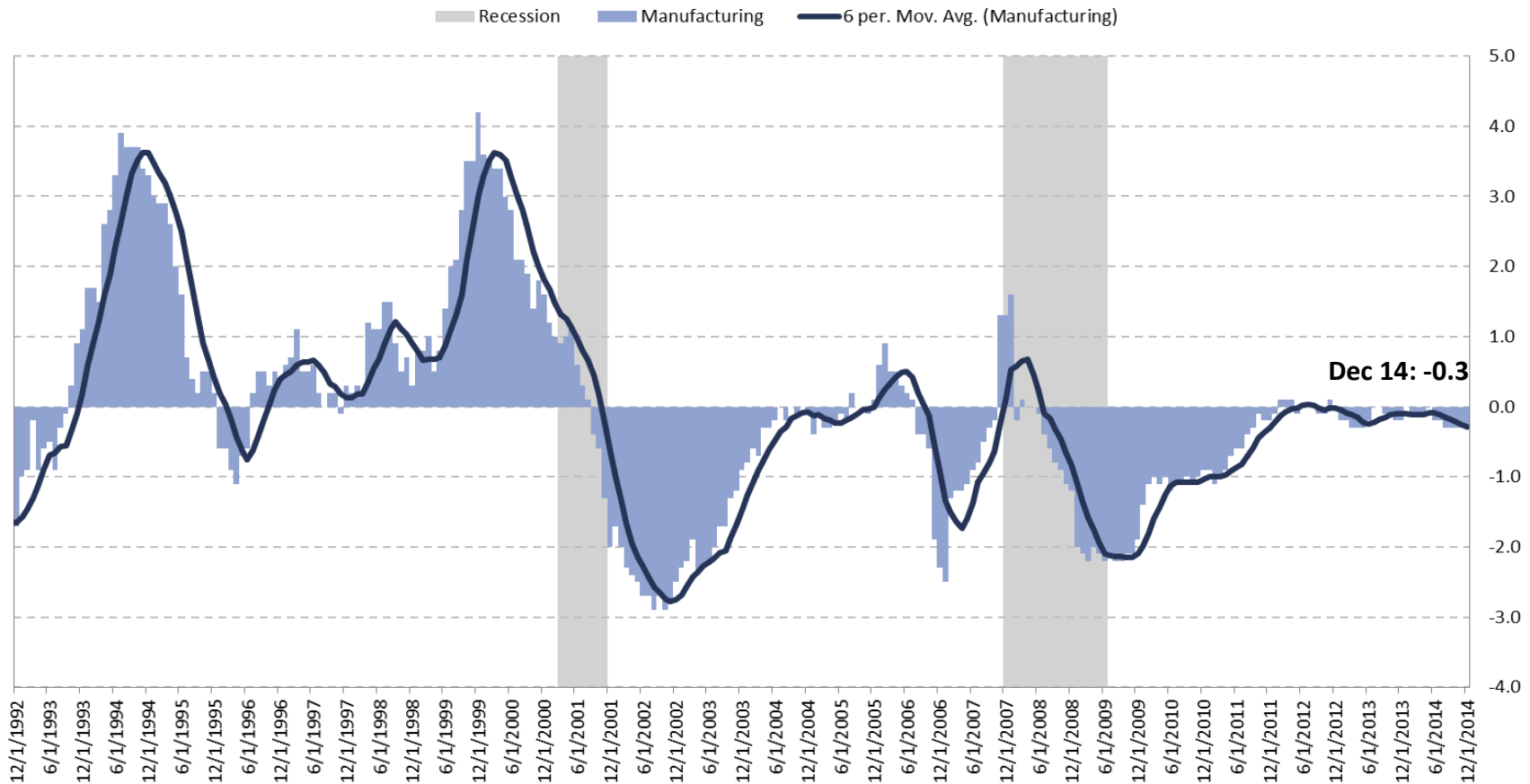
Emerging Technology

Pima County WIB Definition

This sector encompasses entrepreneurship research and development, innovation, technology transfer and commercialization. These activities create primary jobs and drive competitiveness. Pima County has 1,200 high tech companies, ranging from established Fortune 500 companies to small start-ups, some of them resulting from technology transfer activities from the University of Arizona.

Some of the NAICS codes between various target Industries overlap

Possible NAICS Classifications

- **3341** – Computer and Peripheral Equipment Manufacturing
- **3344** – Semiconductor and Other Electronic Component Manufacturing
- **5112** – Software Publishers
- **517** – Telecommunications
- **54151** – Computer Systems Design and Related Services
- **5417** – Scientific Research & Development
  - **541711** – Biotechnology research and development laboratories or services

Scientific Research & Development
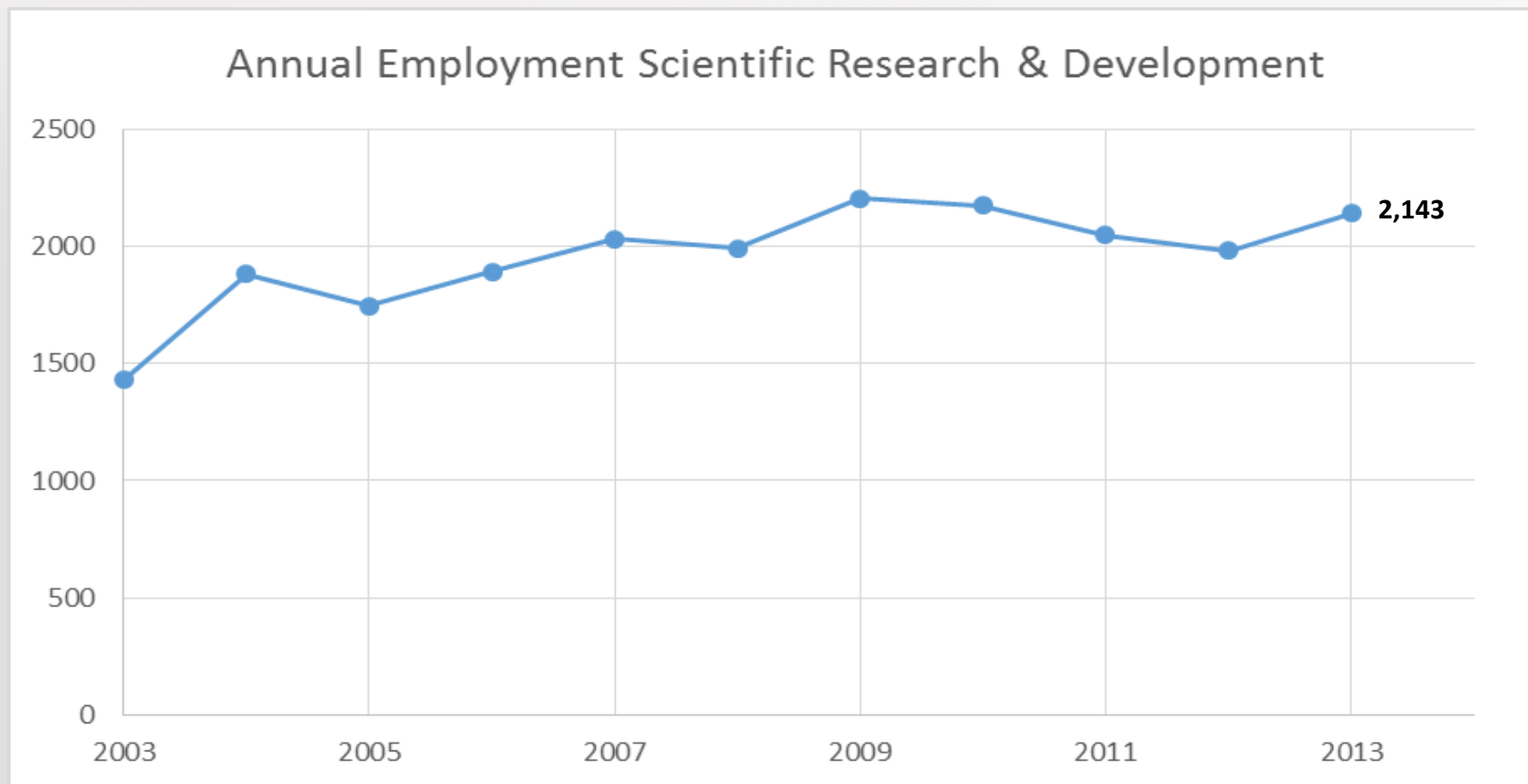
Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics using Quarterly Census of Employment and Wages (QCEW) data

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Logistics

Pima County WIB Definition

The region's strategic location along the U.S.-Mexico border and key trade routes accounts for the prominence of transportation and logistics, with career opportunities in purchasing, expediting, distribution, fleet management, import/export, inventory management, supply-chain management and warehousing.

Possible NAICS Classification

- **48-49**- Transportation & Warehousing

Some of the NAICS codes between various target Industries overlap

Transportation & Warehousing
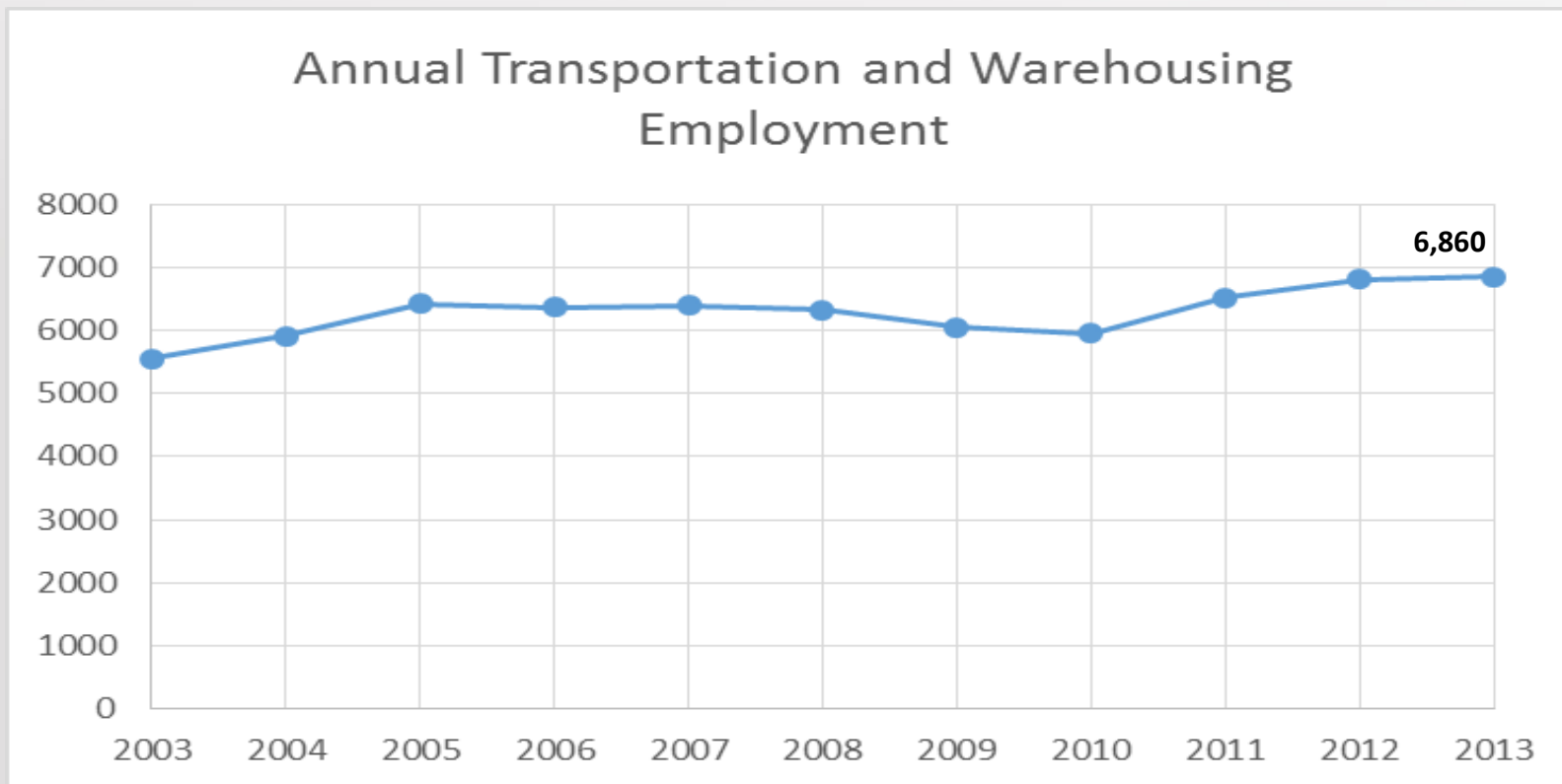
Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics using Quarterly Census of Employment and Wages (QCEW) data
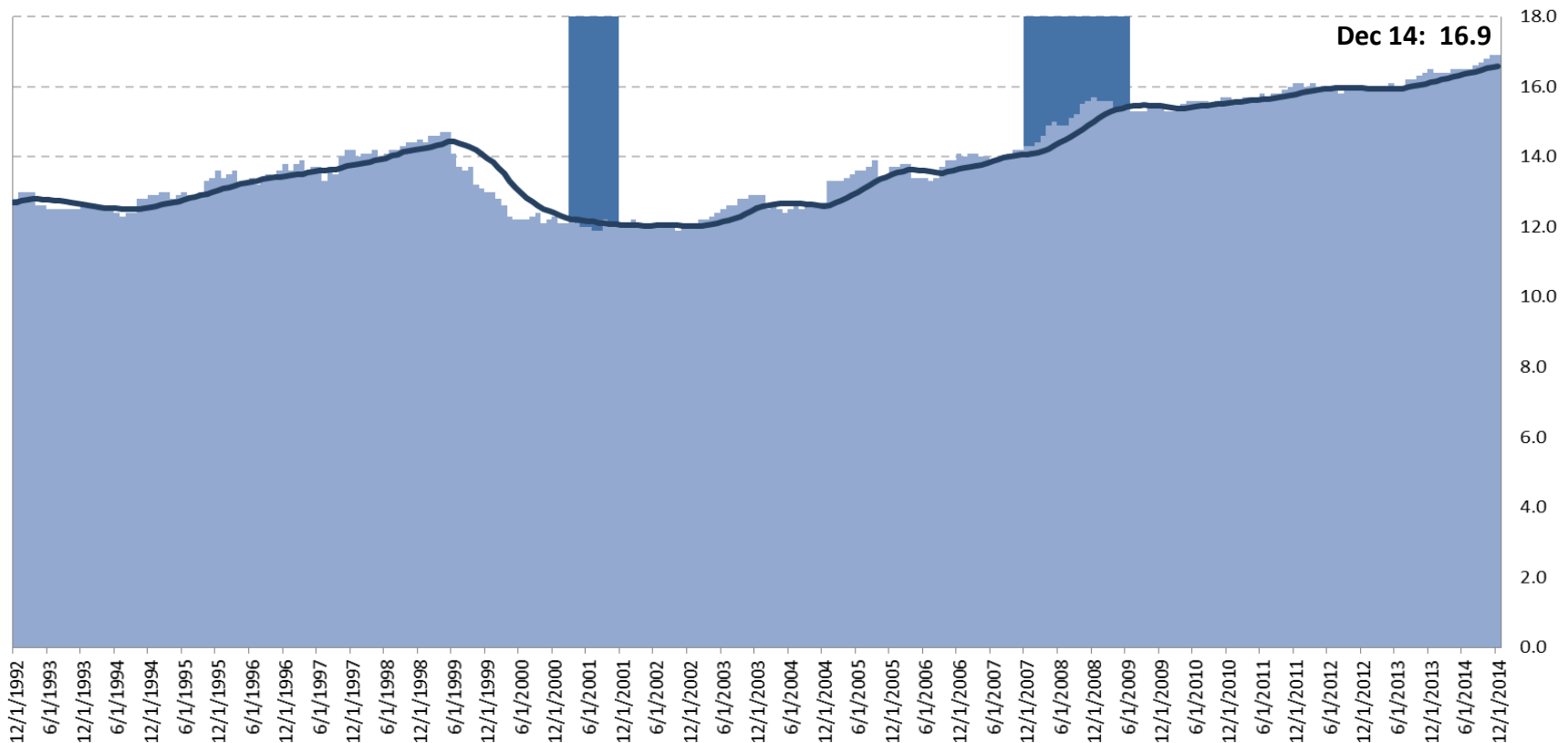
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Health and Bioscience

Pima County WIB Definition

Health care and bioscience are large and vibrant industries that provide a significant number of high-paying jobs in Southern Arizona ranging from traditional health occupations, state of the art health information systems, and cutting edge biotechnology businesses.

Some of the NAICS codes between various target Industries overlap

Possible NAICS Classifications

- **541711** – Biotechnology research and development laboratories or services

- **621** – Ambulatory Health Care Services

- **622** – Hospitals

- **623** – Nursing and Residential Care Facilities

- **3345** – Navigational, Measuring, Electromedical, and Control Instruments Manufacturing

Health Care (CES Data)

Pima County Employment Level

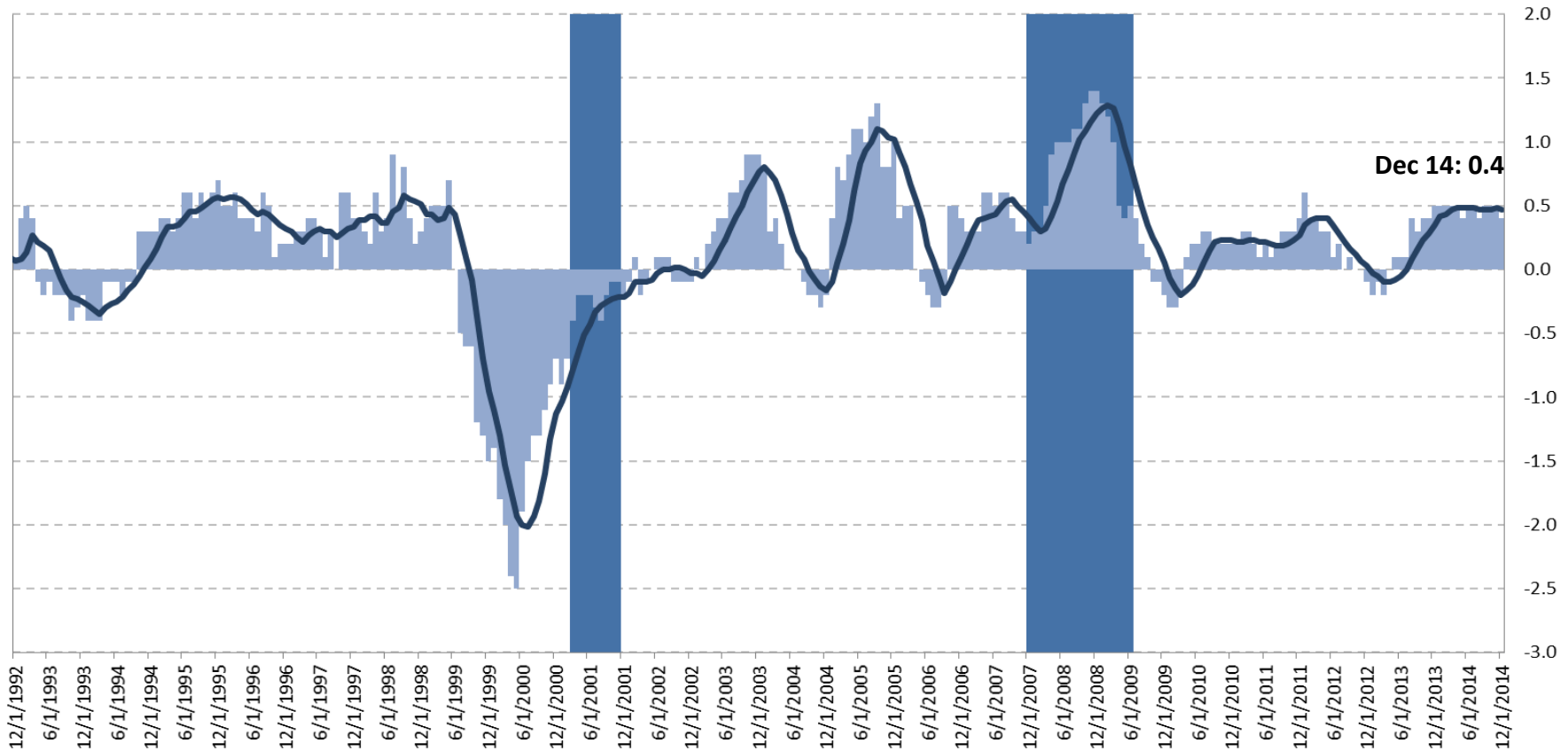Legend: Recession | Health Care | 12 per. Mov. Avg. (Health Care)

Dec 14: 48.9

Source: Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics
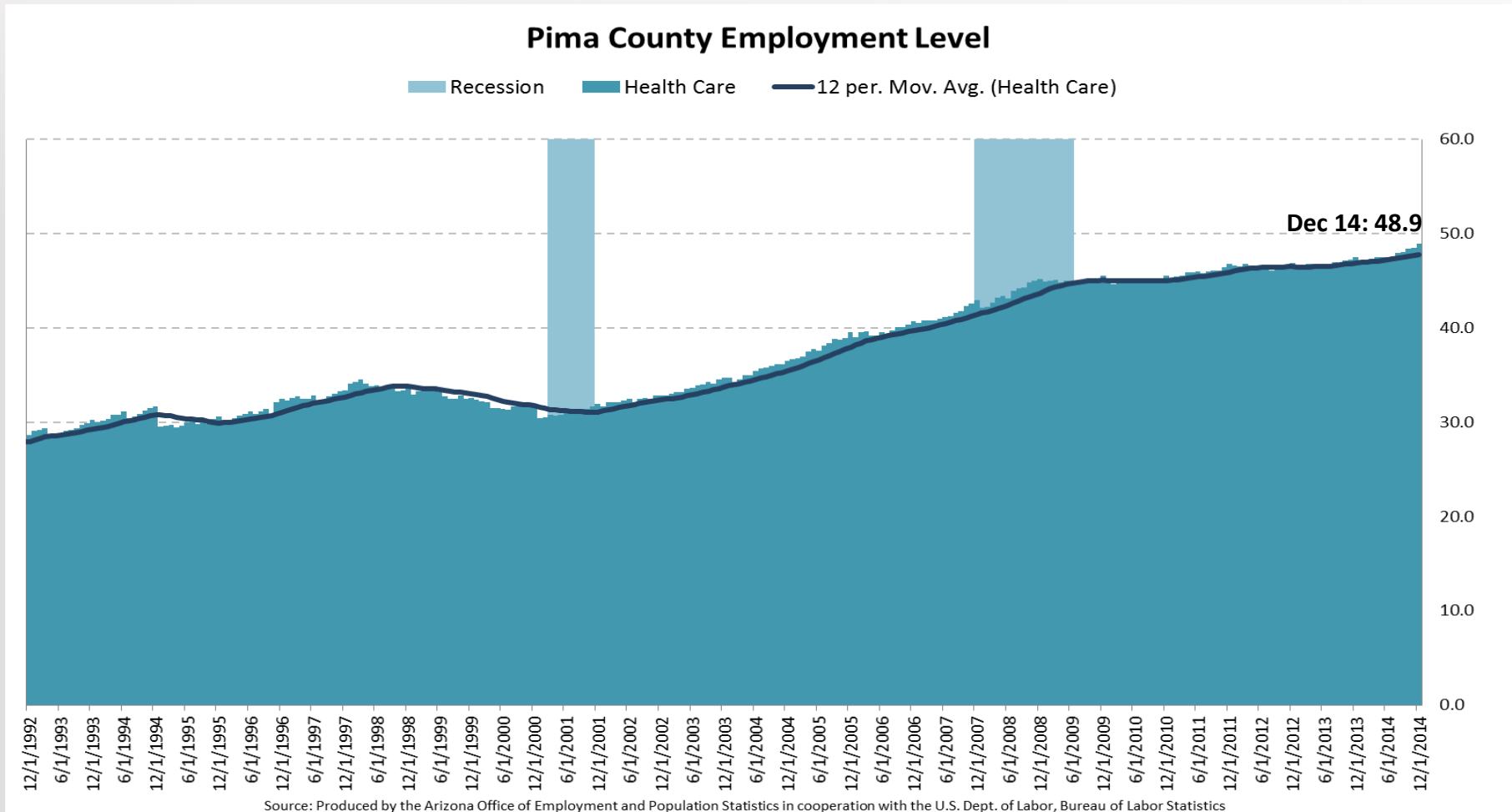
Health Care Over the Year (CES Data)

Pima County Over the Year Number Change

Legend: Recession | Health Care | 6 per. Mov. Avg. (Health Care)

Dec-14: 1.4

Source: Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

Hospitals (CES Data)

Source: Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

Hospitals (CES Data)

Natural and Renewable Resources

Pima County WIB Definition

This sector focuses on the creation of "green" jobs, facilities and systems that help reduce or eliminate reliance on irreplaceable energy sources. The critical feature of this sector is the "Solar Zone" at the University of Arizona Tech Park. This Zone is designed to allow companies to conduct research for new photovoltaic and other sun powered systems under the areas' 311 days of sun each year.
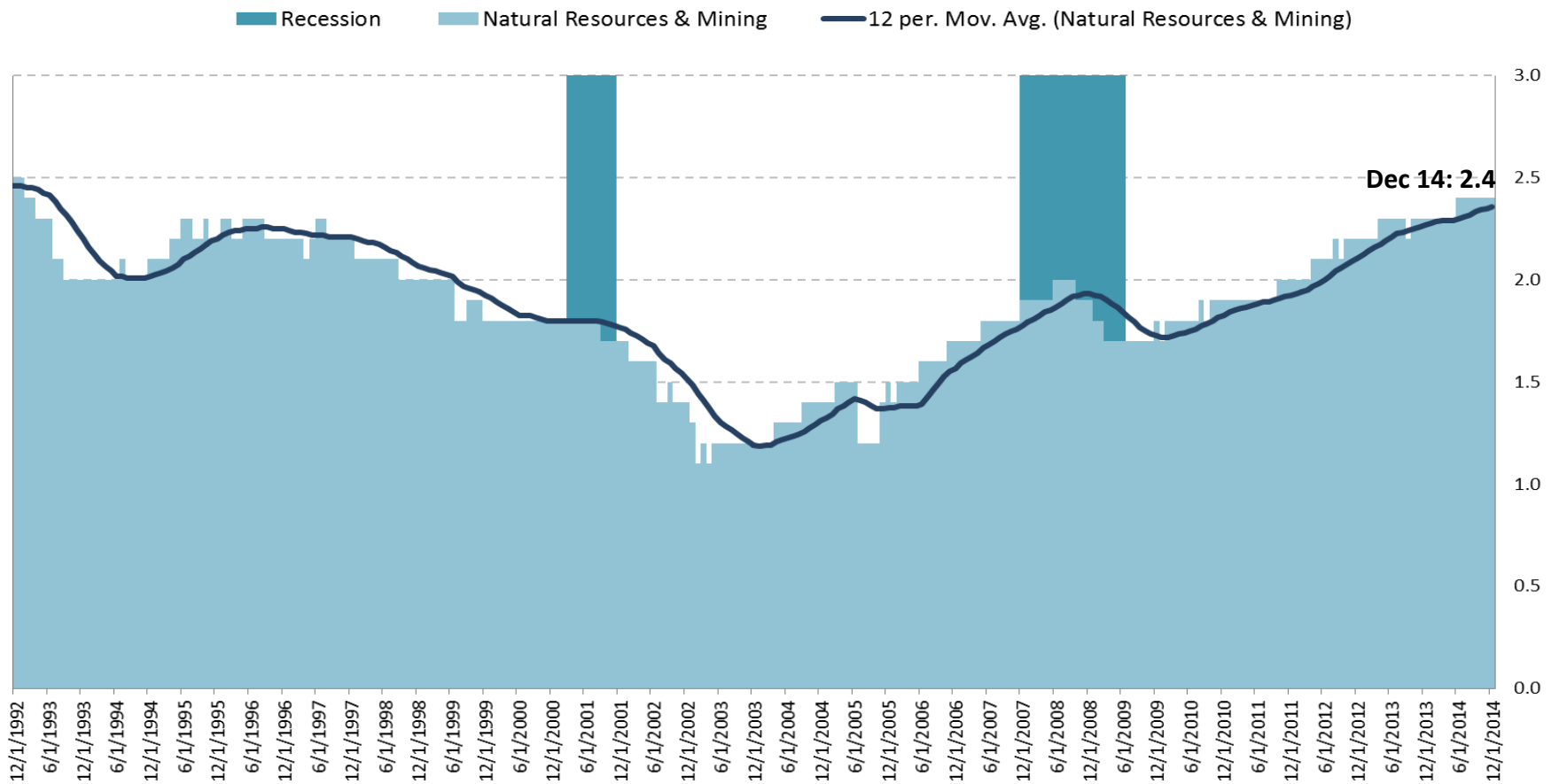
Possible NAICS Classifications

- **2211** – Electric Power Generation, Transmission and Distribution

- **113,1153,114,21** – Natural Resources & Mining

Some of the NAICS codes between various target Industries overlap

Natural Resources & Mining (CES Data)

Pima County Employment Level

Recession — Natural Resources & Mining — 12 per. Mov. Avg. (Natural Resources & Mining)
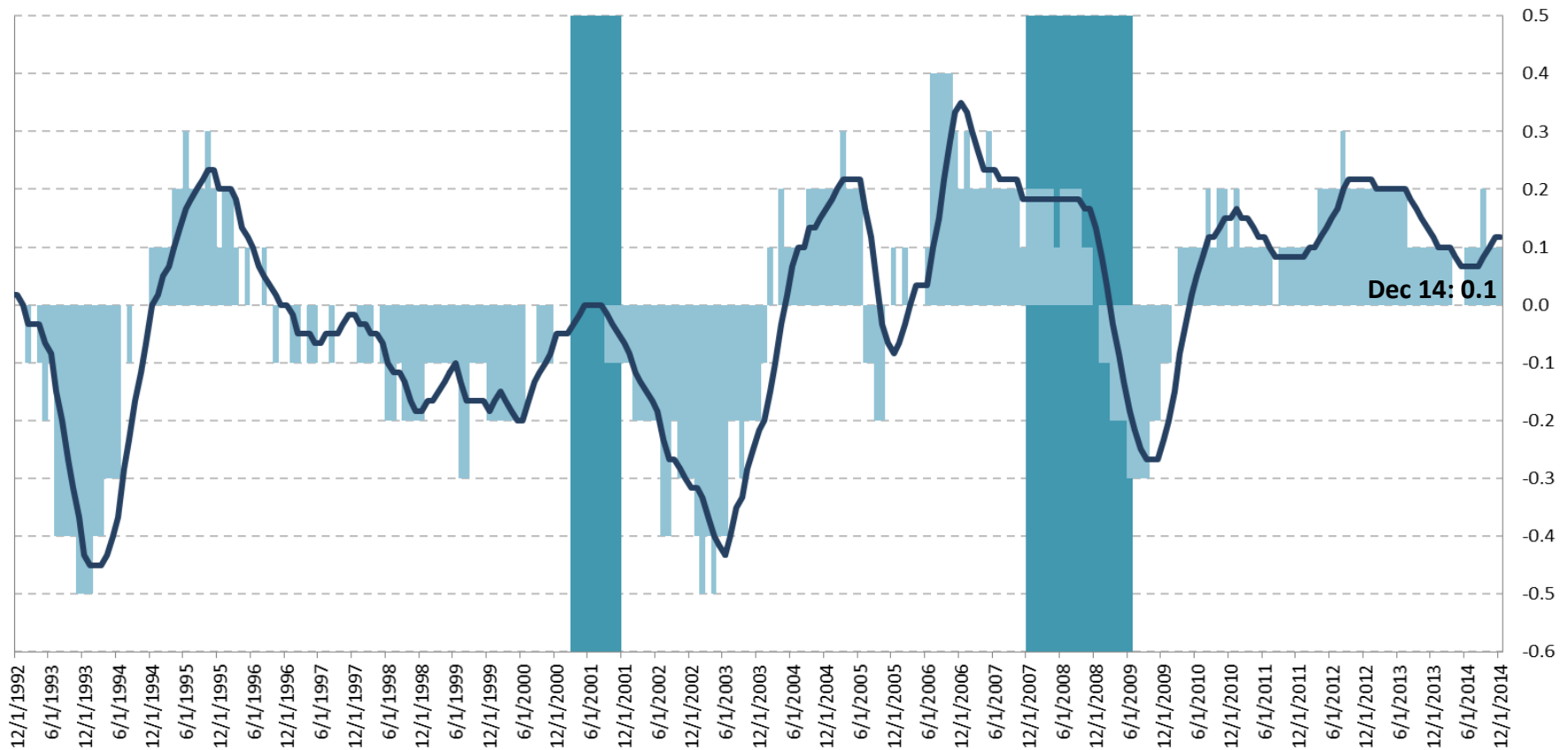
Dec 14: 2.4

Source: Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

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Natural Resource & Mining Over the Year (CES Data)

Pima County Over the Year Number Change

Legend: Recession | Natural Resources & Mining | 6 per. Mov. Avg. (Natural Resources & Mining)

Dec 14: 0.1

Source: Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

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Infrastructure

Pima County WIB Definition

The foundations of a safe, clean, and connected community include occupations in construction, extracting natural resources, communication and utilities.

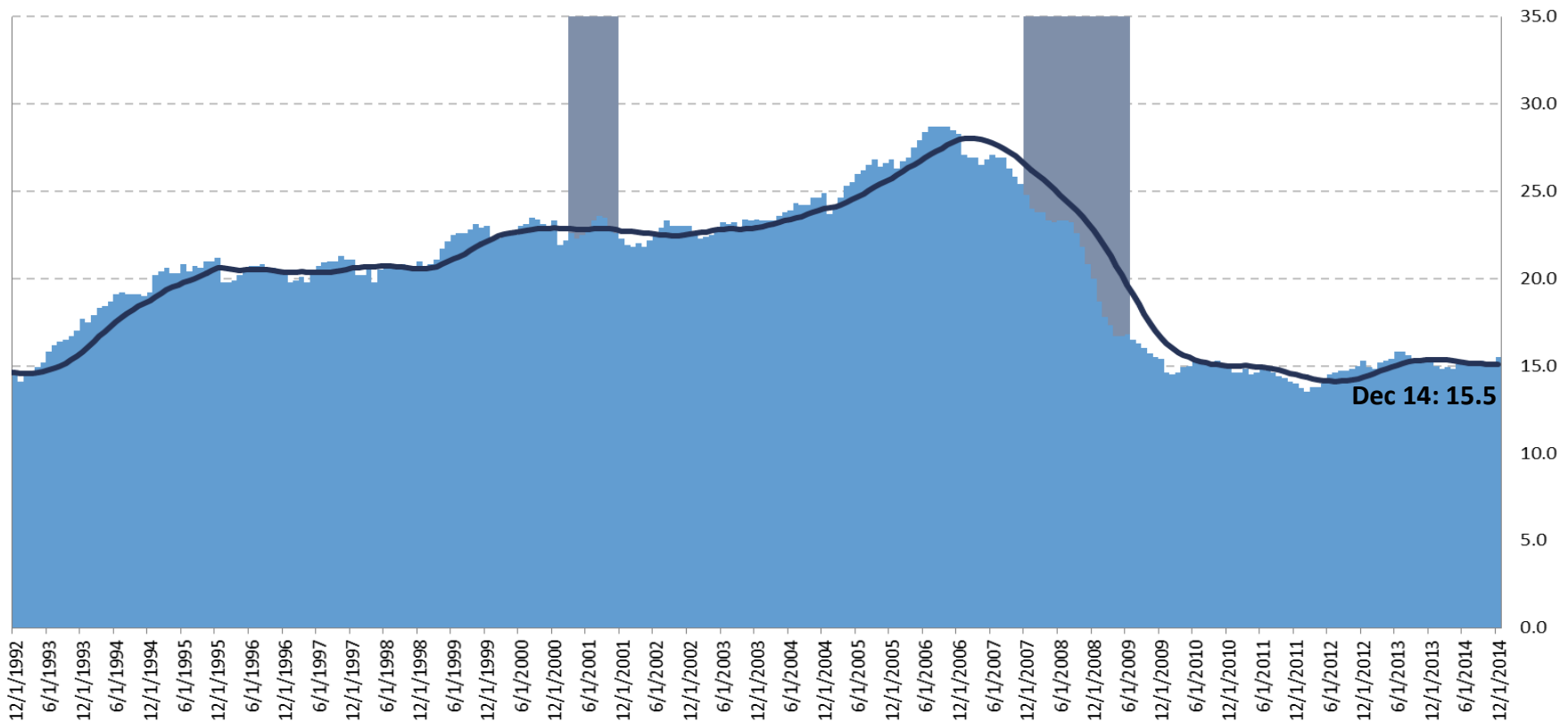***Some of the NAICS codes between various target Industries overlap***

Possible NAICS Classifications

- **21** – Mining, Quarrying, and Oil and Gas Extraction

- **2211** – Electric Power Generation, Transmission and Distribution

- **23** – Construction

- **517** – Telecommunications

- **622** – Hospitals

Construction (CES Data)
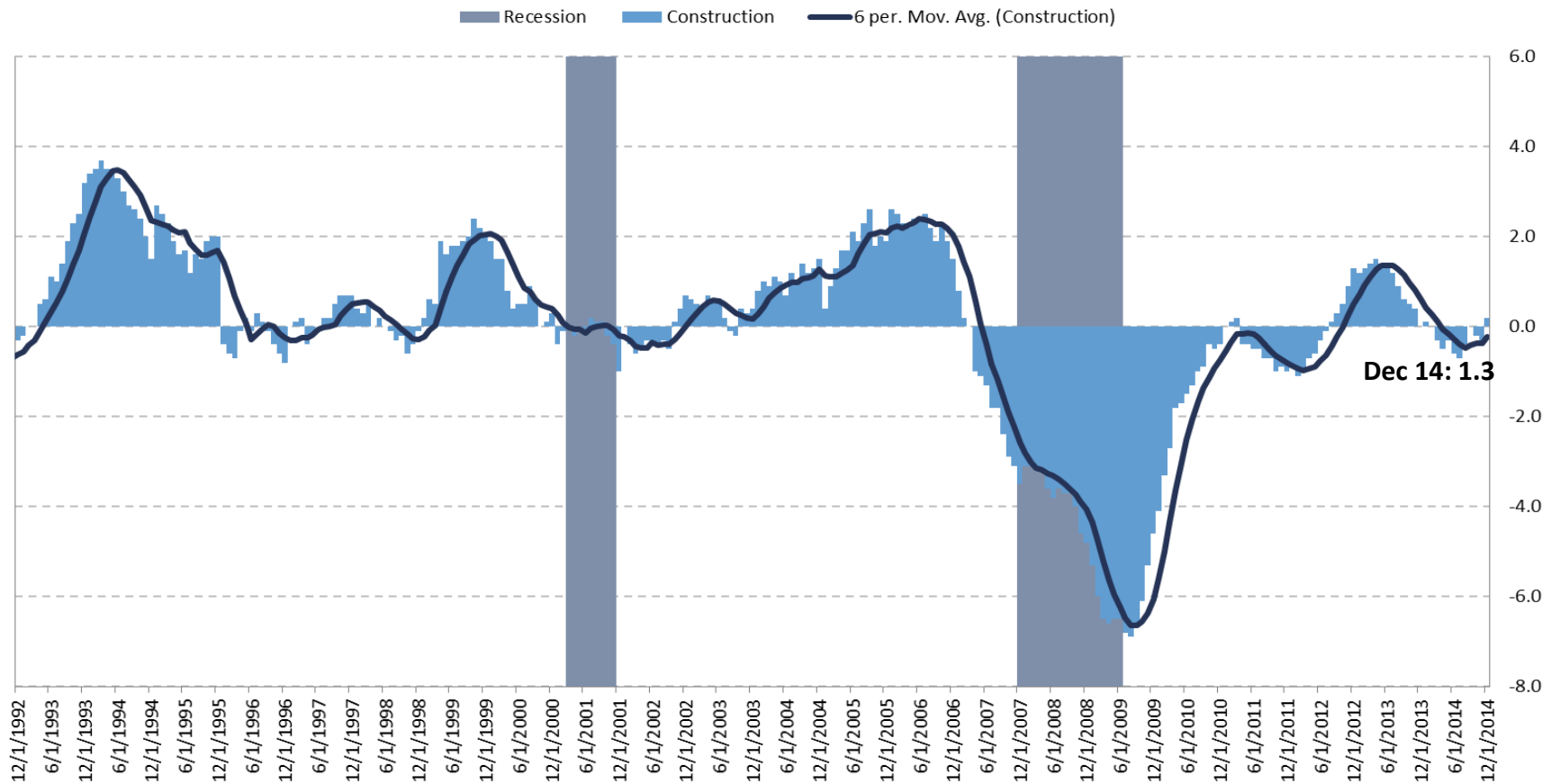

Pima County Construction Employment Level

Source: Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

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Construction Over the Year (CES Data)

Pima County Over the Year Construction Number Change

Legend: Recession | Construction | 6 per. Mov. Avg. (Construction)
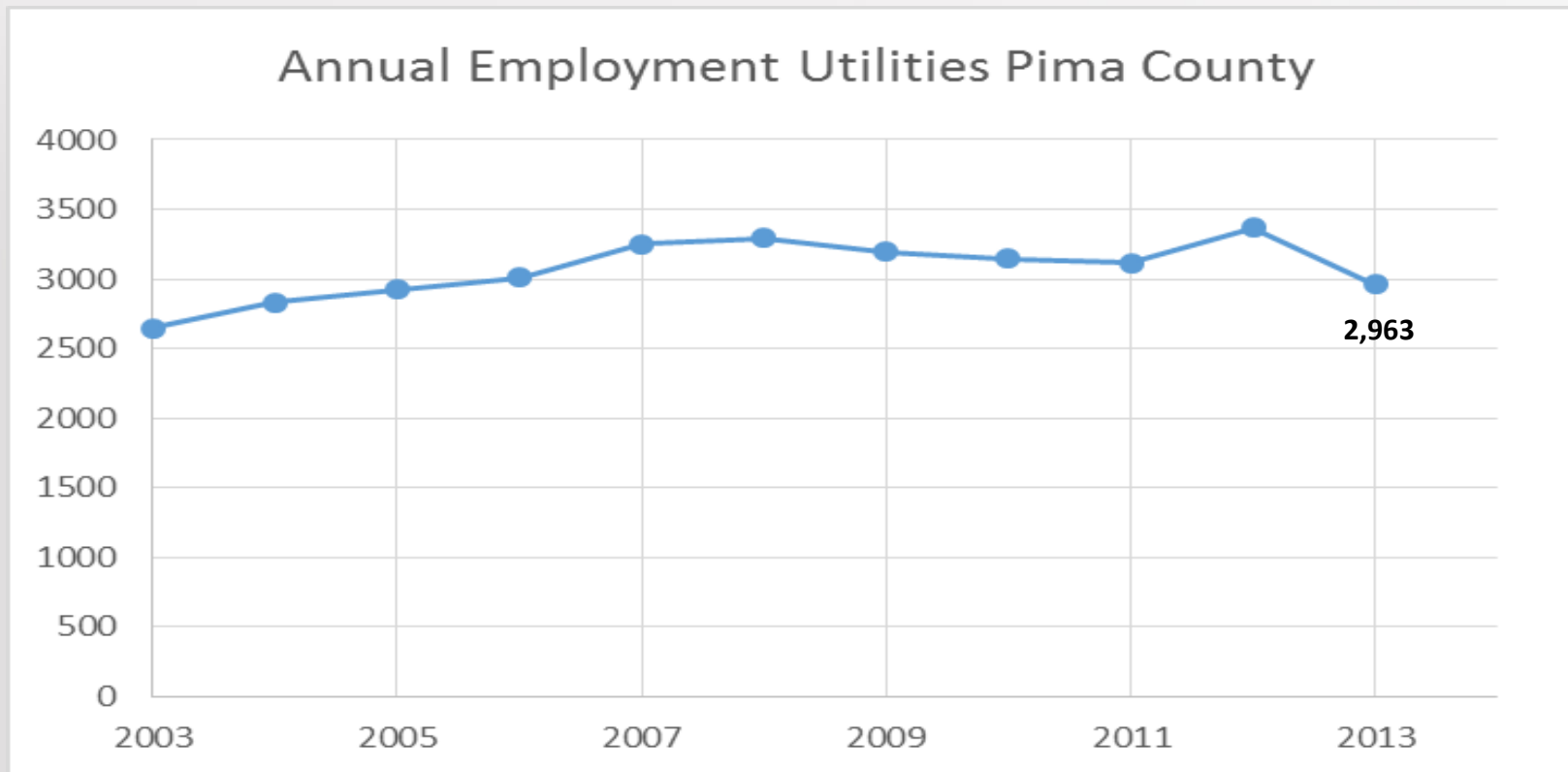
Dec 14: 1.3

Source: Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics

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Utilities

Produced by the Arizona Office of Employment and Population Statistics in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics using Quarterly Census of Employment and Wages (QCEW) data

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Mismatch Between Target Sectors & One-Stop Users

A July 1, 2010 to October 11, 2011 Survey of 2,964 One-Stop users at Rio Nuevo and Kino found:

- 45% (1,333) **below** 9th grade level total battery
- 13% (391) **below** 5th grade level total battery
- 32% (949) **between** 5th and 9th grade total battery
- 51% (1512) **below** 9th grade level math (a prerequisite for technical jobs)

Battery = combination of all scores in language, spelling, math, & reading

Unemployment Rate by Educational Attainment:

- Less than High School: 18.3%
- High School/GED: 11.6%
- Some College or Associate's degree: 7.6%
- Bachelor's degree or higher: 4.3%

American Community Survey 2007-2011

The majority of One-Stop users and those most likely to be unemployed are unqualified for the jobs in many of the target sectors.

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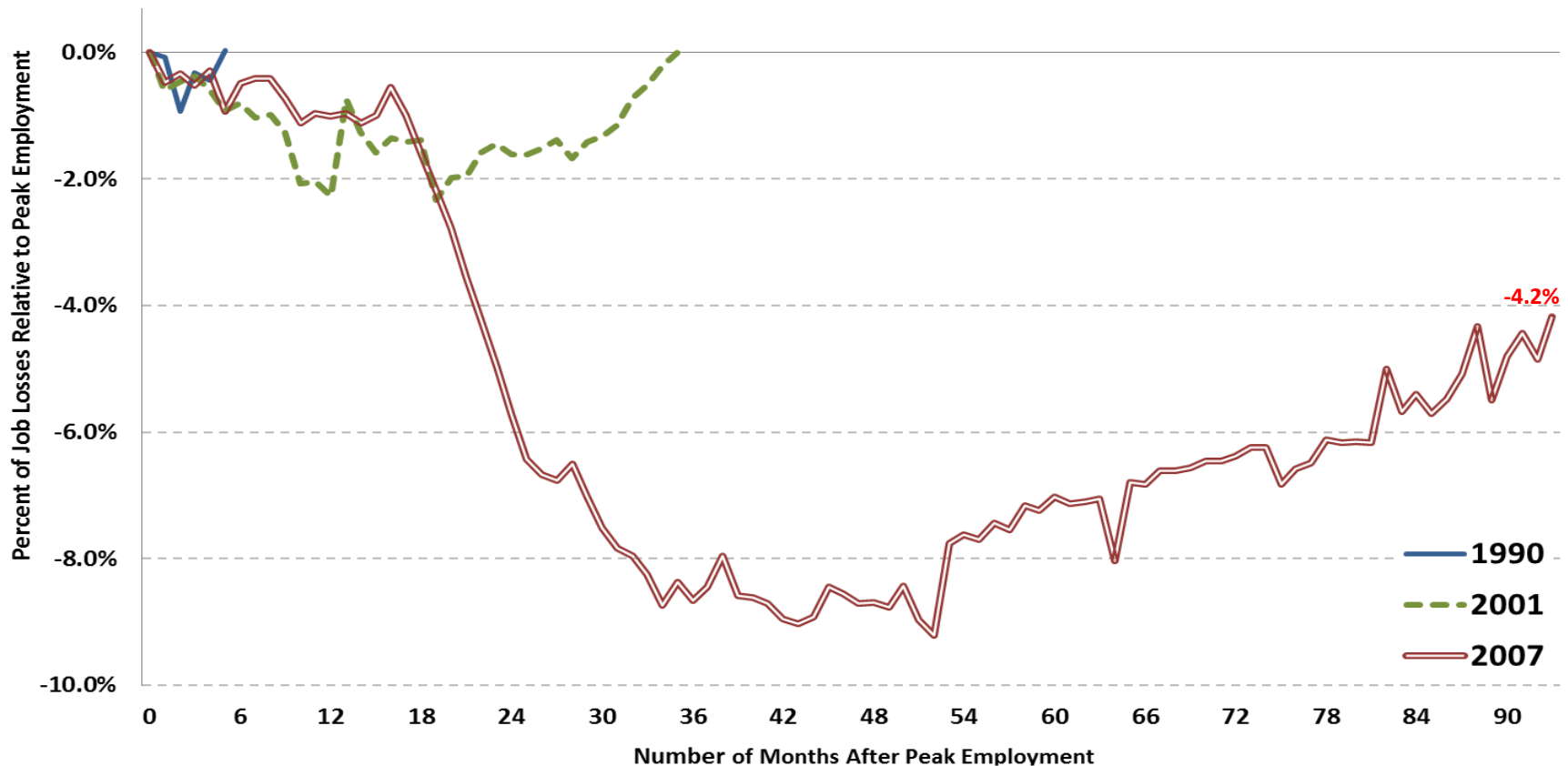
Post Recession Recovery

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Arizona Employment Recovery

Arizona Total Nonfarm Employment Index
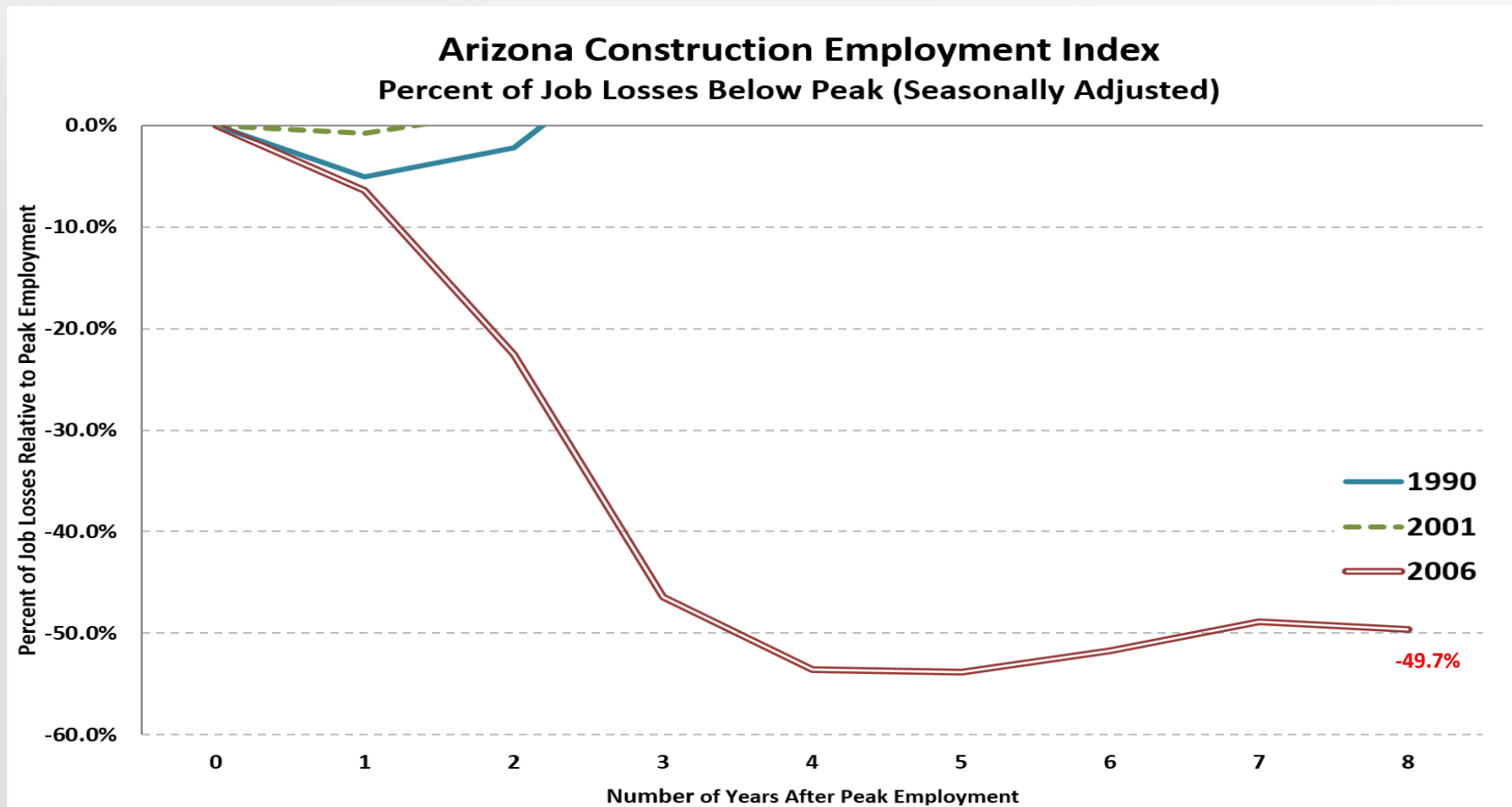**Percent of Job Losses Below Peak (Seasonally Adjusted)**

-3.0%

Legend:
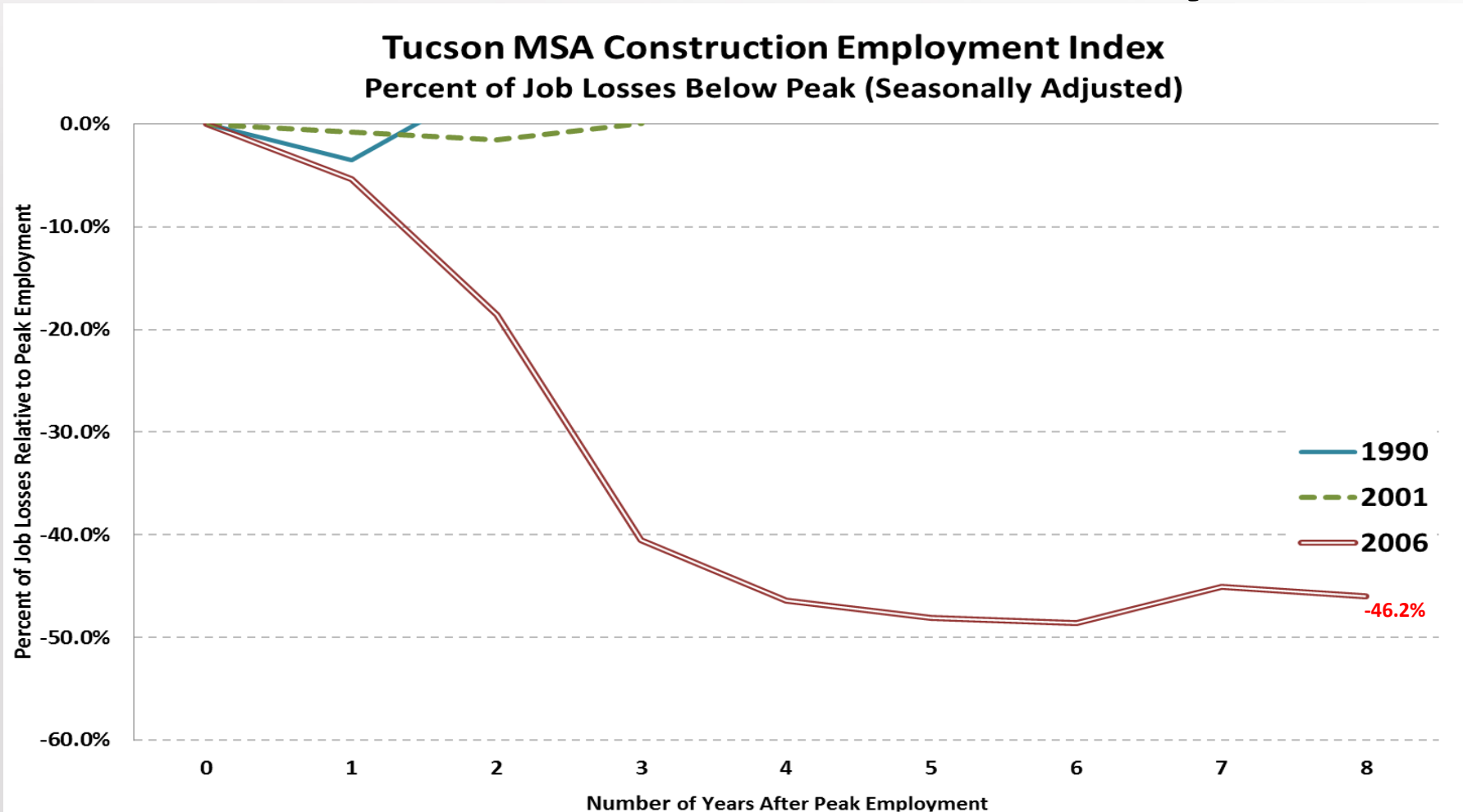— 1990
--- 2001
— 2007

Laborstats.az.gov
602-771-2222

Source: CES Data
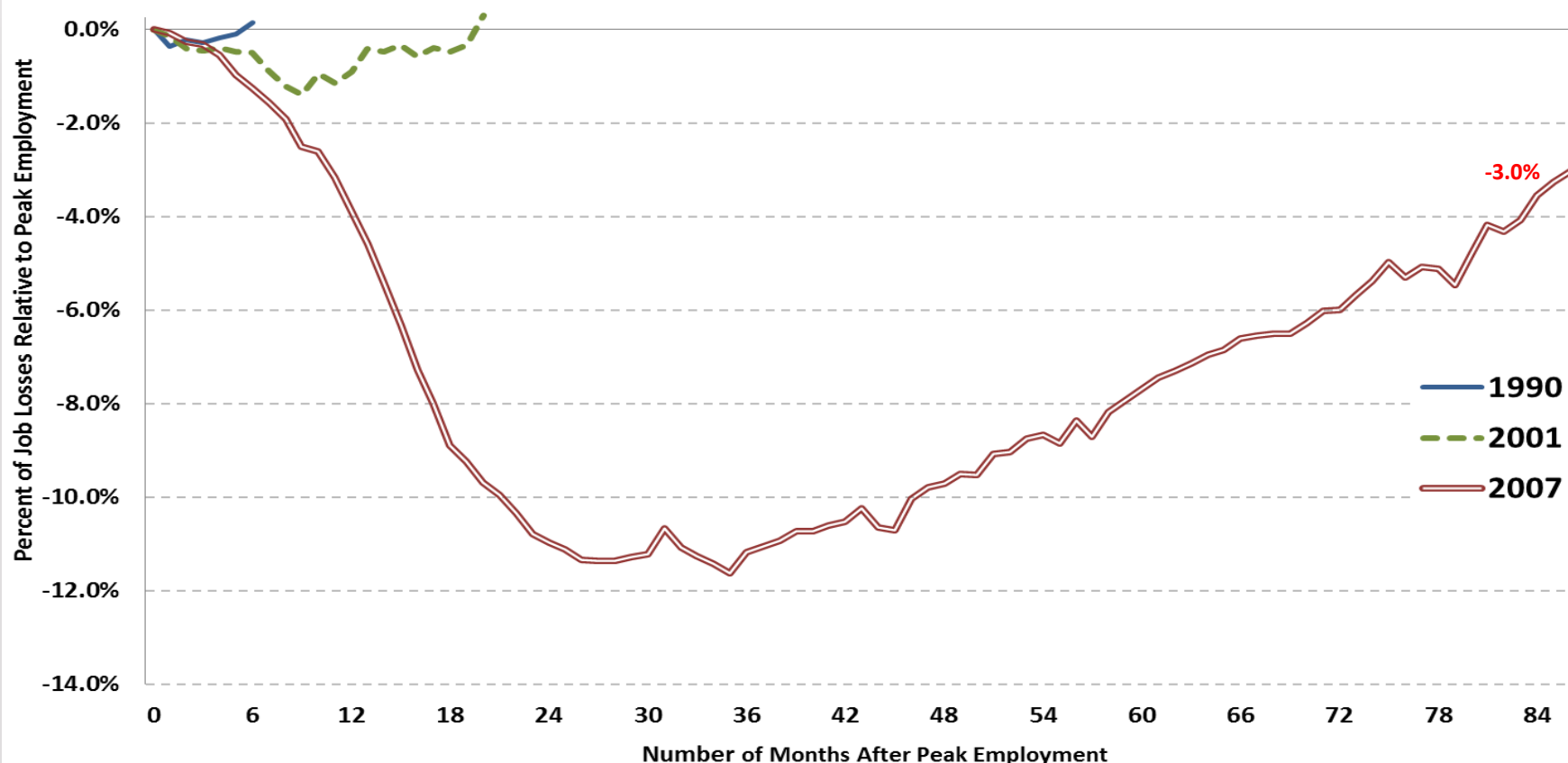
Tucson Employment Recovery

Tucson MSA Total Nonfarm Employment Index
Percent of Job Losses Below Peak (Seasonally Adjusted)

-4.2%

1990
2001
2007

Arizona Construction Recovery

Arizona Construction Employment Index
Percent of Job Losses Below Peak (Seasonally Adjusted)

Tucson Construction Recovery

Tucson MSA Construction Employment Index
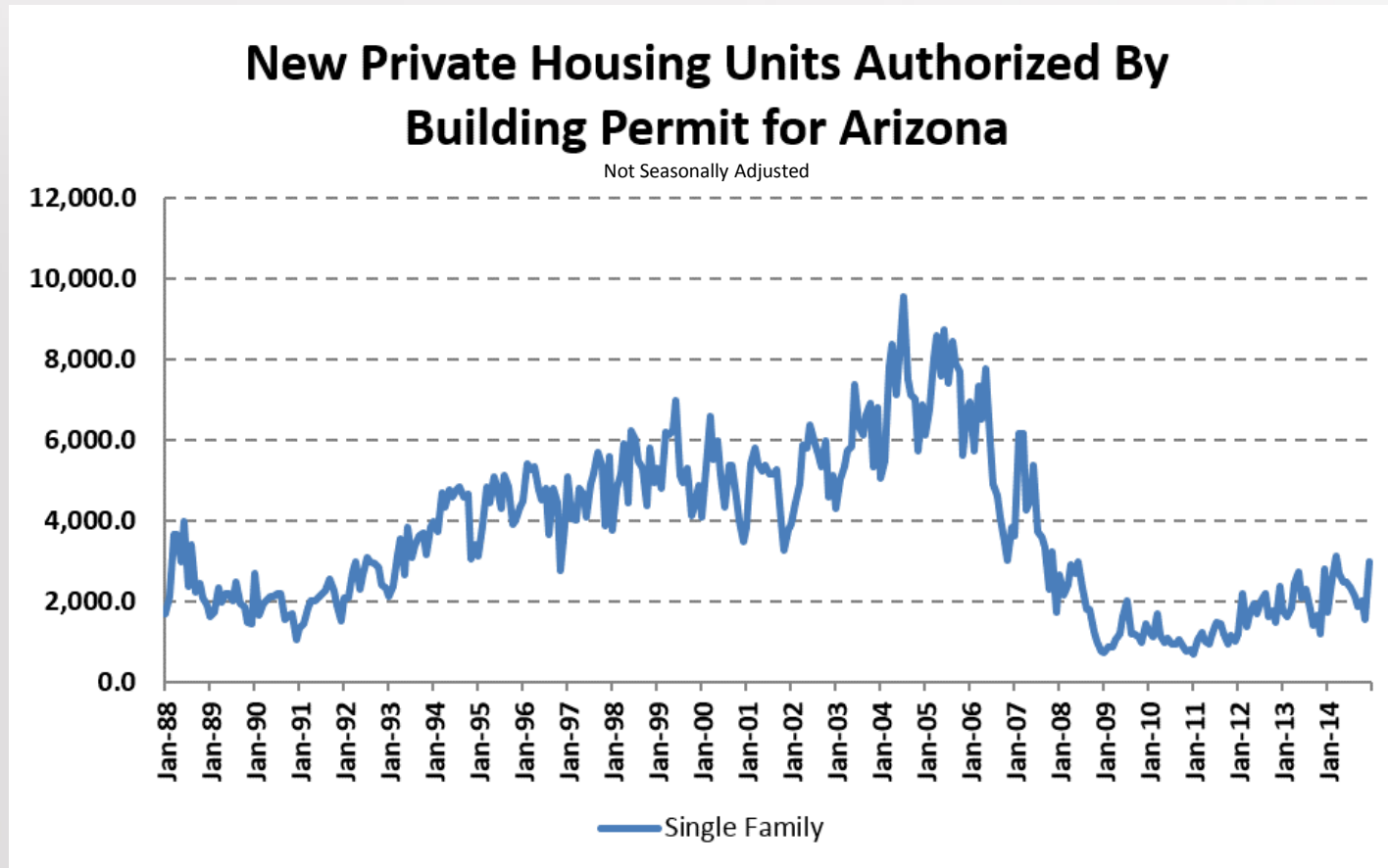Percent of Job Losses Below Peak (Seasonally Adjusted)

Arizona Housing Recovery

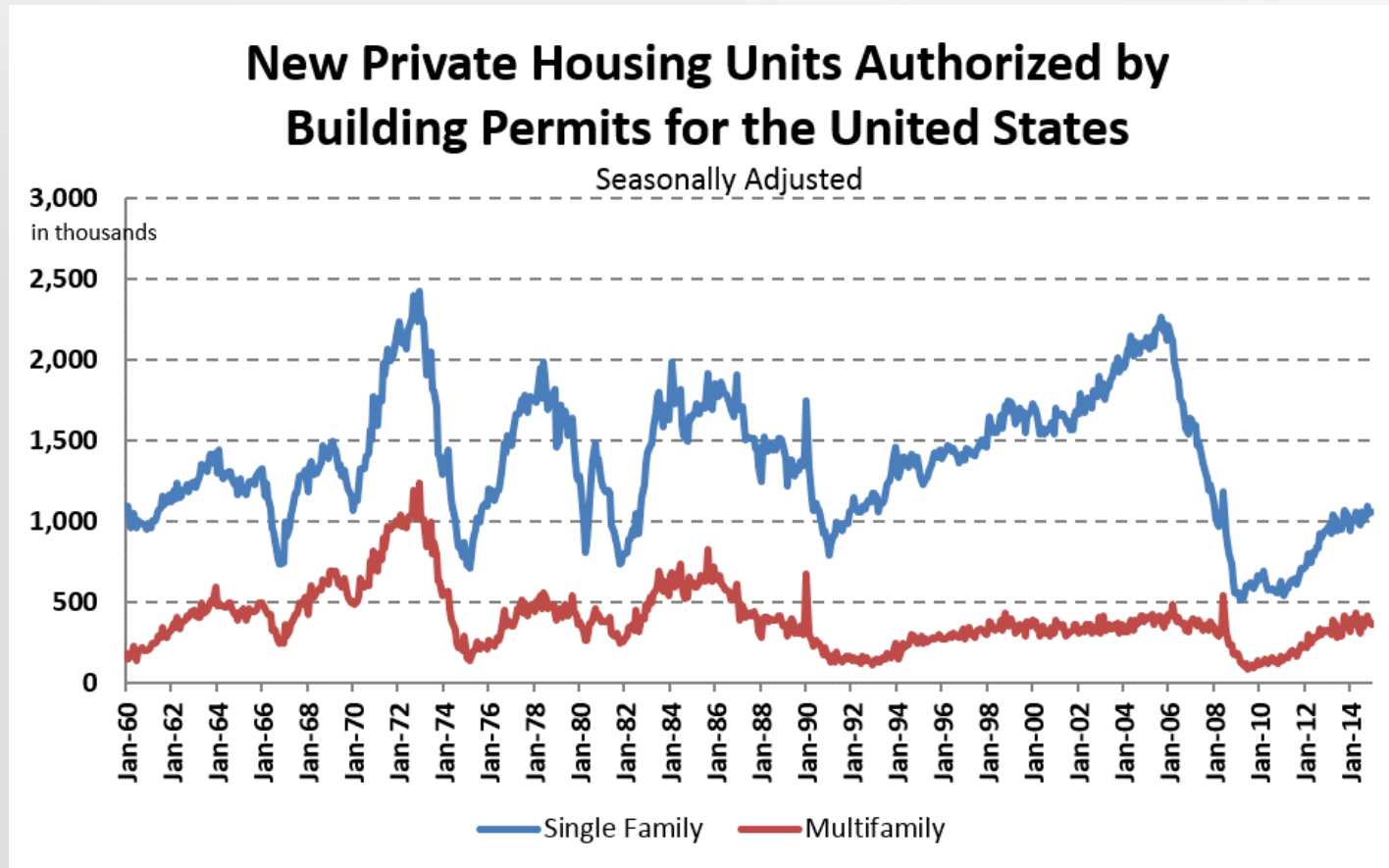**New Private Housing Units Authorized By Building Permit for Arizona**

Not Seasonally Adjusted

Source: Federal Reserve Economic Data

National Housing Recovery

New Private Housing Units Authorized by Building Permits for the United States — Seasonally Adjusted (in thousands). Single Family (blue) and Multifamily (red), Jan-60 through Jan-14.

Labor Market Information

Employment Forecast

Employment Forecast

Industry Projections

- Estimates are categorized by what an industry does (North American Classification System, NAICS)

- Industry projections are produced using monthly and quarterly employment data series, non-covered employment data, and various economic indicators

Occupation Projections

- Estimates are categorized by what the worker does (Standard Occupational Classification System, SOC)

- Occupation projections are produced using industry projections in conjunction with industry staffing patters

Available at https://laborstats.az.gov/employment-forecasts

Employment Forecast

Industry Projections

https://laborstats.az.gov/employment-forecasts

Short Term (2 years)

- Annual Publication
- Current Period: 2014-2016
- Produced for the State, Phoenix and Tucson MSA, and Balance of State areas

Long Term (10 years)

- Biennial Publication
- Current Period: 2012-2022
- Produced for the State, Phoenix and Tucson MSA, and Balance of State areas

Short Term Industry & Occupational Employment Projections

To be released on February 26, 2015

Cluster Industries

University of Arizona

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Tucson Competitive Clusters

- Metro Tucson is number one in the nation for Missiles and Space Vehicles (however this has been a declining industry of late)

- "Cluster composition has been found to be an important factor in explaining growth potential, wage levels, and competitiveness. Understanding a region's cluster composition informs local economic developers' efforts to promote their economy."

http://azeconomy.org/2013/12/featured/cluster-presence-how-does-metro-tucson-compare/#two

Tucson: Important Traded Clusters

- missiles and space vehicles
- hospitality and tourism
- professional organizations and services
- transportation and logistics
- entertainment venues
- engineering services
- research organizations
- medical equipment
- software
- search and navigation equipment
- optical instruments

Laborstats.az.gov
602-771-2222

Thank you.

Questions?

Arizona Department of Administration

Employment and Population Statistics

Contact Information

Website: https://laborstats.az.gov/

Phone: 602.771.2222

Email: labor.info@azstats.gov